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2. PARTICLE SPECTROMETRY

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4.6.1. Methods of Investigation with Nuclear Emulsions

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6.5. Discriminators, Comparators, Shapers, and Switches

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6.6. Analyzers and Spectrometers

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6.6.1. Pulse-Height Analyzers

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A pulse amplitude analyzer with an automatic writing mechanism. A. M. Ivanchenko and G. A. Kibal'chich, No. 6, 786, 1958.
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6.6.2. Time-Delay Analyzers

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6.6.3. Spectrometers and Hodoscopes

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6.7. Coincidence Circuits and Counting Circuits

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Automatic checking of delays in coincidence-circuit channels. D. Kollar, L. Kollarova, and P. Khorvat, No. 6, 1648, 1976.

6.7.1. Fast Coincidence Circuits

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A multichannel coincidence circuit having a small resolving time. M. Vysochanskii, S. V. Mukhin, Pin Pun'-Tsin, S. V. Rikhvitskii, and I. M. Semenyushkin, No. 5, 889, 1961.
An anticoincidence scheme with nanosecond resolution. A. A. Rudenko, No. 2, 279, 1962.
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A nanosecond multiple coincidence-anticoincidence circuit using tunnel diodes and transistors. A. F. Dunaitsev, No. 6, 1221, 1964.
A fast transistorized multiple-coincidence circuit. A. F. Dunaitsev, No. 5, 1045, 1964.
A fast coincidence circuit with sampling of random coincidences. V. N. Belogurov and V. F. Vasil'ev, No. 6, 1512, 1965.
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Nanosecond coincidence circuit for a multichannel recording system. V. M. Suvorov and A. I. Shchetkovskii, No. 4, 776, 1967.
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Coincidence-anticoincidence circuit using a tunnel-diode pair. A. A. Sanin and P. N. Shareiko, No. 6, 1317, 1967.
Coincidence-anticoincidence circuit having a short resolving time for operation under heavy loads. V. P. Kanavets, B. V. Morozov, N. A. Nikiforov, and A. S. Starostin, No. 4, 854, 1968.
Nanosecond-pulse shaper and coincidence circuit. A. A. Rudenko, No. 2, 337, 1968.
Instrument for measuring the resolving time of coincidence—anticoincidence circuits. V. F. Chechetenko, No. 3, 656, 1969.
Coincidence-anticoincidence circuits based on a circuit switch. E. A. Meleshko and A. G. Morozov, No. 3, 718, 1972.
Nanosecond device for amplitude coiding of the coincidence multiplicity and the numbers of inputs. T. M. Volkova and B. G. Mishchenko, No. 5, 1377, 1972.

Multichannel differential coincidence circuit for the nanosecond range. V. A. Avdeev and V. M. Kuznetsov, No. 4, 1079, 1972.

Coincidence-anticoincidence circuit having a nanosecond resolving time. A. A. Rudenko, No. 3, 758, 1971.

Anticoincidence network for the nanosecond range. V. A. Avdeev and V. M. Kuznetsov, No. 5, 1358, 1971.

Amplifier and coincidence circuit for a photon counter having a high time resolution. V. V. Kurbasov and V. Ya. Manzhura, No. 6, 1771, 1972.

A high-speed coincidence circuit having a resolution of 1 nsec. V. F. Boreiko and V. G. Zinov, No. 4, 1087, 1975.

An anticoincidence circuit for the nanosecond range and a high-speed scaling decade based on microcircuits. A. N. Kozyr'kov and V. S. Romanov, No. 1, 72, 1974.

High-resolving-time coincidence circuit based on integrated elements. Yu. V. Korshunov and V. I. Fominykh, No. 5, 1361, 1976.

Fast-coincidence circuit based on integrated microcircuits. V. M. Kuznetsov, G. N. Petlin, and V. K. Tomchakov, No. 5, 1363, 1976.

A fast coincidence circuit. V. G. Demenkov and V. S. Nesterenko, No. 2, 387, 1976.

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6.7.2. Counting Circuits

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A scaling circuit with germanium triodes. I. N. Lisitskaya and A. N. Svenson, No. 3, 485, 1959.

Counting-loss recording in scaling circuits. Yu. K. Akimov, No. 2, 294, 1959.

An automatic pulse counter. G. M. Gorodinskii and V. A. Kochevanov, No. 4, 596, 1959.

An improvement of the decade scaler with binary cells. V. G. Zinov, No. 3, 483, 1959.

Measurement of counting-rate ratios. G. P. Petin, No. 1, 51, 1960.

An apparatus for automatically recording a number of impulses at low repetition rates. A. M. Netsetskii and O. I. Sumbaev, No. 3, 452, 1960.

A high-speed electronic counter with a printing adapter. V. F. Kuz'min and S. S. Matyukhin, No. 5, 733, 1960.

High-resolution scaling circuits. V. V. Sokolovskii, G. V. Rukolaine, I. A. Radkevich, and N. S. Rezvyakov, No. 3, 451, 1960.

A decade scaler with semiconductor triodes. B. N. Raevskii, L. R. Romanov, and V. P. Shamov, No. 5, 750, 1960.

A transistorized decade scaler. G. I. Zabiyakin and V. N. Zamrii, No. 6, 986, 1960.

Circuit for storing counter indications. L. G. Kondrat'yev and V. V. Mal'tsev, No. 3, 579, 1961.

Statistics of operations of differential counting devices. N. D. Balyasny and I. M. Nazarov, No. 5, 896, 1961.

A two-channel decade system for counting and delivering pulses. D. G. Borisov, No. 3, 499, 1961.

Modification of PS-64 scaling devices. V. D. Vasil'ev, No. 1, 189, 1961.

A universal counting unit. O. V. Lebedev and V. V. Timofeev, No. 6, 1097, 1961.

Transistor decade scaler with 10^{-7} second resolution. I. F. Kolpakov, No. 6, 1122, 1962.

High-speed storage-type scalers. V. M. Lachinov, No. 6, 1131, 1962.

A low count-rate meter. V. V. Yakushin and Yu. Ya. Tel'nov, No. 4, 657, 1963.

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Scaling unit using transistors. A. A. Agafontsev, No. 5, 889, 1963.

Scaling device with variable scaling factor. I. N. Kapustin, No. 5, 1123, 1964.

A double-level scaler with output circuits and a reset circuit. V. S. Golub, No. 2, 332, 1965.

A wide-range automatic computing frequency meter. P. P. Gavrish, Yu. N. Denisov, A. G. Komissarov, V. M. Lachinov, V. I. Prilipko, Yu. I. Susov, and P. T. Shishlyannikov, No. 2, 335, 1965.

Correlation counter for electric pulses. A. V. Korsuntsev and M. I. Chernobrodov, No. 5, 1117, 1965.
Logarithmic-step converters for scalers. V. S. Golub, No. 5, 1120, 1965.
Estimating the counting errors of digital measuring systems in the presence of non-Poisson incoming pulse streams. S. S. Kurochkin, No. 5, 1124, 1966.
A simple counter for a slow multichannel analyzer. G. D. Alkhazov, A. A. Vorob'ev, V. A. Korolev, and D. M. Seliverstov, No. 2, 334, 1964.
Evaluation of the accuracy of a background-subtraction system. V. M. Malykhin, No. 2, 434, 1964.
Pulse counter with digital indication. L. A. Bogorad and M. B. Zhdanova, No. 3, 671, 1967.
Address counter with parallel input and ripple-through carry of the control signal. V. E. Ivchenko, No. 4, 779, 1967.
Electronic switch for the PS-100 scaler. E. A. Zel'din, No. 6, 1426, 1967.
Decade counter with indication by means of light diodes. L. B. Iogansen and A. A. Iogansen, No. 6, 1423, 1967.
Decade counter using semiconductor devices. V. N. Vishnevskii, V. V. Izokh, and A. V. Prokurov, No. 5, 1218, 1967.
Biquinary differential counting circuit. B. Shebesh'ten and A. M. Markov, No. 3, 589, 1968.
Errors related with the dead time of counters during fluctuations of source intensity. A. M. Shenderovich, No. 4, 1002, 1968.
Counting-rate meter with automatic recording. N. I. Karabanov and A. I. Loksh, No. 2, 348, 1969.
Economical counter decade with indicator. M. I. Lerner, A. G. Ryzhevskii, and V. M. Shlyandin, No. 5, 1348, 1969.
Automatic reset and start of a counter. V. I. Man'kovskii and V. M. Semenikhin, No. 6, 1450, 1969.
Decade counter with operative storage of measurement results. L. S. Gorn and B. I. Khazanov, No. 1, 107, 1970.
Scaling network with commutation of the reset threshold. V. A. Avdeev and V. M. Kuznetsov, No. 6, 1620, 1970.
Digital count-rate meter. L. S. Gorn, I. D. Ivanov, and B. I. Khazanov, No. 1, 110, 1970.
Low count-rate meter for an automatic recording galvanometer. A. I. Loksh, No. 1, 113, 1970.
Device for broadband pulse repetition frequency recording. V. V. Sidorenko, V. G. Sharonin, Yu. O. Yakubovskii-Lipskii, and A. V. Sidorenko, No. 2, 422, 1970.
Perfecting the timer in the PP-15 scaling instrument. Ya. A. Kronis and A. D. Tumul'kan, No. 4, 1250, 1971.
Digital instrument for selection and counting of irregular pulses. P. M. Ananichev, A. M. Burd, and B. N. Motenko, No. 2, 462, 1971.
Transistorized counting decade. L. V. Shilov and V. S. Tyutyunnik, No. 3, 722, 1972.
Scaling decade with an improved noise immunity. V. G. Rybakov, No. 2, 376, 1972.
Method of obtaining the difference between two periodic pulse sequences. V. P. Danil'chenko and V. G. Fraiberg, No. 5, 1380, 1972.
Statistical-pulse-sequence subtracters. V. S. Sukhotin, V. F. Dubovitskii, and V. I. Cherkasov, No. 3, 749, 1972.
Linear adding circuit for semiconductor Ge(Li)-detectors. A. S. Aloev, N. A. Vartanov, Yu. E. Kazakov, and Yu. N. Stugarev, No. 4, 1082, 1972.
Binary-decimal pulse counter with a low energy consumption. V. T. Koniovskii and R. A. Markova, No. 2, 447, 1973.
Scaling device. V. M. Nekrasov, Yu. A. Kozlov, A. A. Molchanov, and V. P. Volkogon, No. 3, 977, 1973.
A counting decade with digital display. V. E. Khodakov, V. P. Grinenko, and V. S. Bulavin, No. 5, 1324, 1974.
Meter for measuring the average pulse counting rate, which has an improved linearity. V. S. Gorev, M. D. Firsov, and A. L. Kholodkov, No. 6, 1773, 1975.
A photon-counting circuit. V. S. Lebedev and V. D. Lysov, No. 6, 1776, 1975.
Counter with memory. I. N. Likhtman, No. 6, 1651, 1976.
A scaling decade with a vacuum luminescent display tube. A. D. Murinov, No. 1, 95, 1976.

6.7.3. Fast Counting Circuits

Decade scaler with maximum counting rate 100 MHz. V. M. Lachinov, No. 1, 47, 1963.

High-speed decade scaler with a counting rate above 200 MHz. V. M. Lachinov, No. 5, 1130, 1966.

High speed scaling unit using tunnel diodes. M. K. Efimchik, V. V. Izokh, V. I. Lakizo, É. I. Podol'nyi, and A. F. Chernyavskii, No. 5, 1160, 1966.

High-speed, single-cycle, ferrite-transistor ring counter circuits. N. M. Nikityuk, No. 6, 1402, 1966.

Tunnel-diode 100-MHz indicating scaler decade. I. Mantsa, B. A. Zelenov, L. K. Lebedeva, and M. A. Plyshevskii, No. 6, 1322, 1967.

High-speed scaling circuit using tunnel diodes and transistors. V. G. Vovchenko and V. M. Zheleznyakov, No. 4, 858, 1968.

High-speed counter using tunnel diodes and transistors. A. N. Kozyr'kov and V. S. Romanov, No. 3, 653, 1969.

Fast-counting register using tunnel diodes and transistors. V. T. Subbotin and K. É. Érglis, No. 4, 893, 1969.

Tunnel-diode counters of higher reliability. V. S. Eletskii and A. I. Repin, No. 6, 1452, 1969.

Highly sensitive counting system for the nanosecond range. V. N. Zubarev, V. I. Ivanov, N. S. Moroz, V. B. Radomanov, and V. S. Stavinskii, No. 6, 1622, 1970.

High-stability nanosecond coincidence circuit for slow NaI(Tl) scintillators. E. K. Bonyushkin, Yu. M. Drozdov, V. V. Spektor, and R. A. Orlov, No. 6, 1626, 1970.

High-speed scalers employing tunnel diodes and transistors. Yu. N. Denisov, V. M. Lachinov, and V. I. Prilipko, No. 4, 820, 1965.

Scaling decade for frequencies up to 200 MHz. L. Dubik and Z. Tsisek, No. 3, 761, 1971.

Binary scaler with a counting rate of up to 200 MHz. V. M. Grebenyuk, No. 5, 1378, 1971.

High-speed scaling decade based on integrated circuits. A. A. Perel'man, No. 5, 1381, 1971.

Scaling decade operating at 120 MHz. Yu. V. Rodnov, No. 2, 373, 1972.

100-MHz transistorized decade with a commutator. V. V. Kurbasov and N. M. Lypkan', No. 6, 1711, 1972.

Scaling decade with a decoder operating at 100 MHz. M. I. Al'kaev, V. V. Kurochkin, and A. M. Shcherbachenko, No. 4, 1107, 1973.

Ring potential counters based on integrated circuits operating at 140 MHz. S. G. Basiladze, No. 5, 1327, 1974.

High-speed circuit of a counting channel for parallel connection of halide gamma-quanta and beta-particle counters. B. M. Kolesov, G. I. Ganichev, V. A. Efimov, A. N. Shishmolin, and A. K. Ovchinnikov, No. 5, 1329, 1974.

A nanosecond decade counter. Yu. N. Artyukh, G. I. Gotlib, and V. Ya. Zagurskii, No. 1, 105, 1975.

High-speed triggers with a counting input which are based on integrated circuits. V. M. Grebenyuk, V. P. Nikolaev, and V. T. Sidorov, No. 2, 448, 1975.

High-speed binary–quinary pulse counter using integrated microcircuits. A. A. Sheredeka, No. 3, 785, 1975.

High-speed decade based on integrated microcircuits. K. A. Palaguta and L. V. Kulakov, No. 4, 1063, 1976.

High-speed logic circuits for multichannel charged-particle counters. A. A. Nemashkalo and V. M. Denyak, No. 1, 99, 1975.

6.7.4. Counting Circuits with Ferrites, Based on Decatrons, Thyristors, Integrated Circuits, and Diodes

An economic scaler with magnetic cores. Sh. I. Barilko, L. S. Gorn, and B. I. Khazanov, No. 2, 272, 1959.

High-resolution ferrite-transistor decade counter. A. A. Bogdanov, L. S. Gorn, and B. I. Khazanov, No. 2, 296, 1961.

Ferrite-transistor subtracting devices for pulse-frequency signals. S. V. Gruzdev and R. G. Karpov, No. 1, 108, 1966.

Ferrotransistor register with sequential interrogation. N. T. Nikityuk, No. 3, 673, 1967.

The selection of circuits for pulse counting systems. M. N. Ivanov and V. I. Kadashevich, No. 2, 348, 1967.

Magnetic-transistor counter with regeneration of information. V. N. Svirin, No. 2, 401, 1974.
A magnetic pulse counter with a variable storage coefficient. G. T. Chukavin, No. 2, 405, 1974.
A magnetic storage pulse counter. G. T. Chukavin, No. 3, 731, 1974.
Derandomizing devices. A. A. Eremin and A. V. Vasyanin, No. 6, 1641, 1974.
Decimal counter which operates on the current-distribution principle. V. I. Pautov, No. 2, 381, 1972.
A transistor trigger circuit for decatrons. E. D. Eliseev and V. I. Kazachkov, No. 1, 159, 1963.
A decatron scaler. V. O. Viazemskii, L.V. Drapchinskii, A. N. Pisarevskii, V. V. Trifonov, and E. I. Firsov, No. 6, 791, 1958.
A reliable trigger circuit for decatrons. V. A. Zapevalov, No. 2, 295, 1961.
A decatron counter with a transistorized control circuit. R. P. Chubarov, No. 6, 1129, 1962.
A decatron counter with a hybrid control circuit. R. P. Chubarov, No. 3, 554, 1964.
A decatron scaler. V. G. Brovchenko and L. G. Kondrat'ev, No. 4, 983, 1965.
A generator for magnetic suspension of ferromagnetic rotors. V. M. Ponizovskii, No. 5, 1269, 1965.
Electromechanical decatron counter. M. B. Karel'skaya, B. I. Tverdov, and R. P. Chubarov, No. 5, 1220, 1967.
Trigger circuits for decatrons. V. G. Brovchenko and L. G. Kondrat'ev, No. 1, 101, 1968.
Multidigit decade counter based on an electromagnetic delay line. N. E. Matalasov, E. F. Maklyaev, and A. P. Tsitovich, No. 2, 419, 1970.
A thyristor counter with an increased speed of response. V. A. Pilui, No. 2, 385, 1976.
Economical decimal counter based on integrated logic elements. A. A. Klimashov and B. I. Khazanov, No. 2, 379, 1972.
Majority 12-input coincidence circuit. Yu. B. Bushnin and A. F. Dunaitsev, No. 2, 437, 1973.
A scaling system based on integrated microcircuits. A. F. Dunaitsev, Yu. V. Rodnov, and A. N. Sytin, No. 5, 1603, 1973.
Scaling decade based on integrated circuits. V. M. Nekrasov, No. 1, 334, 1973.
Counters based on integrated circuits with switchless display drive. V. A. Zaretskii, G. L. Notkin, and O. D. Makeev, No. 5, 1366, 1976.
A scaling network based on tunnel diodes. V. V. Izokh and M. K. Efimchik, No. 3, 500, 1962.
Electronic counters employing tunnel diodes and transistors. V. V. Klimov and Ya. F. Kovalin, No. 3, 606, 1966.

6.7.5. Ring, Multichannel, and Reversible Counting Circuits

Ring counter with digital indication. V. P. Bakalinskii, V. V. Bugaenko, and V. P. Tsymbal, No. 3, 669, 1967.
Ring scaler circuits with tunnel-diode—transistor stages. K. É. Érglis and V. T. Subbotin, No. 1, 94, 1968.
Ring scaling network. V. A. Avdeev and V. M. Kuznetsov, No. 6, 1669, 1971.
A high-speed ring shift register. V. S. Simonov and V. G. Shapoval'yants, No. 5, 1334, 1974.
High-speed ring counter. B. G. Kudasov, No. 4, 1104, 1973.
Multichannel counting system based on the AI-100 analyzer for measuring the yield of photonuclear reactions. N. N. Balamatov and B. I. Goryachev, No. 3, 599, 1966.
Multi-input counting system with information output. M. N. Ivanov, V. I. Kadashevich, and I. A. Kondurov, No. 6, 1397, 1966.
Multichannel counting system based on the AI-256 instrument for measuring the outputs of photonuclear reactions. E. V. Armenskii and N. N. Balamatov, No. 6, 1363, 1968.
Multichannel counting system. I. A. Zlobin and E. E. Shaparenko, No. 6, 1360, 1968.
Multichannel storage counter. L. A. Zhuravlev, No. 1, 98, 1968.
A reversible decatron scaling circuit. L. S. Gorn, L.G. Ol'dekop, and B. I. Khazanov, No. 2, 293, 1961.
Reversible counter using decatrons OG-5. I. D. Murin, No. 6, 1164, 1961.
A reversive scaling circuit with ferrite-transistor cells. L. S. Gorn and B. I. Khazanov, No. 1, 103, 1961.
Transistorized digital comparator and reversible binary scaler. I. F. Kolpakov, No. 6, 1101, 1961.

Transistorized reversible decimal scaler. G. R. Gol'bek and V. D. Shestakov, No. 5, 1114, 1965.
Reversible storage counter. A. P. Vishnevskii, No. 4, 858, 1966.
Reversible decatron scaler with digital-to-analog conversion. V. B. Nazarov, V. A. Zabrodin, P. K. Kirillov, and L. N. Gal'perin, No. 5, 1135, 1966.
Reversible trigger unit with increased noise immunity. V. V. Dobyrn and D. A. Asfendiarov, No. 6, 1427, 1967.
Reversible decatron counter. V. G. Galalu, R. V. Korobkov, and V. E. Shakhmatov, No. 5, 1101, 1968.
Reversible decimal counter. Yu. V. Ovsov, No. 4, 890, 1969.
Automatic background subtraction. É. I. Podol'nyi and Yu. E. Selyaninov, No. 1, 68, 1969.
Reversing trigger counting decade. M. G. Marinov and E. P. Ilel, No. 5, 1375, 1971.
Multidecade ferrite-transistor reversing counter. Yu. P. Paramzin and M. A. Rad'ko, No. 3, 713, 1972.
A high-speed reversing counter with asynchronous control. Yu. N. Artyukh, V. A. Bespal'ko, and V. Ya. Zagurskii, No. 5, 1402, 1973.
A reversing counting decade based on integrated circuits which have digital display. Yu. M. Veshkurtsev and A. Yu. Petrov, No. 6, 1701, 1973.
Pulse subtractor using integrated microcircuits. D. D. Natanzon, No. 3, 787, 1975.
A reversible decade counter using integrated circuits with digit indicating by seven-segment incandescent display. L. R. Seidel', Kh. A. Ismailov, and S. G. Saligov, No. 1, 109, 1975.
A reversing pulse counter with low energy consumption. A. A. Eremin and A. V. Vasyanin, No. 2, 450, 1975.
Reversing photon counter based on integrated circuits. V. I. Cherednichenko and K. B. Petrushenko, No. 4, 1084, 1975.
A binary reversing counter with pulse logic, which is based on integrated circuits. V. T. Medvedev, No. 4, 1082, 1975.
Difference pulse counter. A. I. Bezuglov, G. Sh. Pekarskii, and V. M. Shmyglev, No. 5, 1369, 1976.
Reversing decade counter with conversion, memorization, and display of results. K. A. Palaguta, M. M. Egorov, B. K. Bulychev, and L. V. Kulakov, No. 4, 1058, 1976.
Reversing binary—decimal counter based on integrated microcircuits. A. I. Bezuglov, No. 5, 1343, 1976.
A seven-decade reversing counter based on integrated circuits which have digital display. V. A. Tarasov, No. 1, 88, 1976.
A multiple-input reversing pulse counter. V. M. Vedernikov, V. P. Kir'yanov, and M. A. Koksharov, No. 2, 379, 1976.
A device for reversing pulse counts. M. I. Al'kaev, V. M. Vedernikov, and A. M. Shcherbachenko, No. 2, 382, 1976.

6.8. Converters

Amplitude-time converter. N. E. Zhorov and S. N. Neustroev, No. 4, 1112, 1973.
An amplitude-time converter for single pulses. V. G. Ioffe and Yu. V. Pshenichnikov, No. 5, 1455, 1973.
Wide-range discrete amplitude-time converter. N. N. Goryunov and A. D. Erlykin, No. 1, 88, 1965.
A semiconductor digital Vernier converter. M. K. Efimchik, V. V. Izokh, and A. F. Chernyavskii, No. 4, 984, 1965.
A charging device with feedback for amplitude-to-time conversion. V. V. Marchenkov and A. P. Nekhai, No. 2, 345, 1969.
Five-channel scale-time converter. Yu. M. Gerasimov, L. V. Derbunovich, O. I. Potepukh, and O. N. Suetin, No. 6, 1727, 1972.
Charge-discharge device for amplitude-time converters. V. P. Dygai, Z. V. Magrachev, and B. K. Tsygankov, No. 6, 1724, 1972.
Compensation of the nonlinearity of an amplitude-time converter. E. D. Vysotskii, No. 4, 1057, 1972.
Calculation of the dead time of high-speed amplitude converters. M. E. Glushkovskii, No. 6, 1671, 1971.
An amplitude-time converter with logarithmic scale. E. O. Agasyan, No. 6, 1105, 1963.

Conversion of a pulse amplitude ratio into a pulse of an amplitude proportional to the ratio. R. G. Ofengenden and N. M. Parovik, No. 1, 57, 1963.

Linear extender of repeating time intervals. V. N. Gubarchuk and B. A. Shumanskii, No. 6, 1730, 1972.

Reduction of differential nonlinearity in amplitude converters. M. E. Glushkovskii, No. 3, 793, 1970.

Self-compensating converter for converting a peak voltage to a slowly varying voltage. V. I. Voronin, No. 5, 1388, 1974.

A frequency information converter for pulsed ultrasonic devices. Yu. M. Kafarov, No. 5, 1390, 1974.

Current-voltage converter with automatic switching of the scales. D. A. Rossoshinskii, No. 2, 430, 1973.

A linear converter that converts an alternating voltage into a direct voltage. R. N. Danielyan, M. S. Garibyan, and G. A. Airiyan, No. 6, 1736, 1973.

Converter for converting a bipolar random signal into a unipolar one with simultaneous gating. P. P. Shklyarenko and V. E. Yamnyi, No. 2, 390, 1972.

Device for normalizing the amplitude of a random signal. M. V. Komar and V. E. Yamnyi, No. 2, 393, 1972.

A high-speed phase-voltage converter. V. B. Lazarev, No. 2, 407, 1976.

Balanced switch converters that convert phase shifts into voltages using logical circuits. A. O. Ottens, A. A. Zavalishvili, and N. N. Shtarev, No. 5, 1423, 1976.

Analog-signal converter based on a peak detector with time gates. V. I. Voronin, No. 4, 1065, 1976.

6.8.1. Analog-to-Code Converters

A voltage—frequency converter based on a 1UT402 operational amplifier. V. V. Lopatin, No. 1, 89, 1974.

High-frequency voltage—frequency converters based on avalanche transistors. V. P. D'yakonov, V. I. Orlov, A. M. Remnev, and A. S. Ul'yanov, No. 5, 1317, 1974.

Threshold analog-frequency converter. A. I. Alekseev and V. V. Boloznev, No. 6, 1660, 1974.

An extensively used converter which converts an amplitude into a pulse train. V. A. Antyukhov and B. Yu. Semenov, No. 2, 394, 1974.

Device for synchronous conversion of two random signals to digital form. V. E. Yamnyi, A. P. Zhigalov, M. V. Komar, and P. P. Shklyarenko, No. 4, 1287, 1972.

Determination of the maximum measurement time of a voltage-code converter. V. V. Sivkov and M. S. Titov, No. 4, 1074, 1972.

Automatic unit for measuring the characteristics of amplitude-digital converters. N. K. Lastochkin, I. I. Gracheva, and I. I. Tkach, No. 2, 365, 1972.

Quantizing converter based on an avalanche transistor. V. P. D'yakonov and Ch. A. Sharifov, No. 4, 1076, 1972.

Voltage converter with discrete control. V. D. Dvornikov, V. M. Komarov, and L. I. Yudin, No. 4, 1054, 1972.

An analog-digital converter. A. G. Golovko and T. D. Shermergor, No. 1, 91, 1975.

A high-speed analog-digital converter based on integrated microcircuits. V. P. Golovkov, V. K. Ivanov, and S. S. Shikhmanov, No. 6, 1783, 1975.

A simple analog-digital converter that converts the voltage to a number of intermediate accuracy. V. A. Ivanov, A. B. Kudryavtsev, and V. I. Ermakov, No. 6, 1781, 1975.

A multichannel analog-digital converter. V. A. Krendelev and V. N. Rychenkov, No. 6, 1752, 1975.

An analog-digital converter and integrating amplifier. V. M. Aul'chenko, Yu. V. Korshunov, and Yu. V. Usov, No. 4, 1098, 1975.

A phase-sensing voltage—digital code converter. I. M. Fedorov and V. V. Kormil'tsev, No. 4, 1108, 1975.

A converter for fast amplitude analysis. A. E. Beskorovainyi and A. A. Silaev, No. 6, 1786, 1975.

Analysis of differential nonlinearity of precision amplitude converters. M. E. Glushkovskii, No. 3, 798, 1975.

A linear voltage—frequency converter. V. A. Klynin, Yu. N. Tikhonov, and V. N. Korneev, No. 2, 397, 1976.

Bipolar voltage-to-frequency converter based on an LC oscillator with linearization. S. G. Saligov and D. I. Damirov, No. 5, 1373, 1976.

Multiplier for multiplication of the slope of the characteristic of an analog-frequency converter. A. P. Bondarev, V. N. Radchenko, and L. A. Timokhin, No. 1, 106, 1976.

A functional analog-digital converter based on integrated microcircuits. I. M. Abdullaev and R. M. Akhmedov, No. 2, 410, 1976.

Quantizing converters based on a single-junction transistor. D. G. Ali-Zade, Yu. B. Leshchinskii, and A. Sh. Kuliev, No. 5, 1371, 1976.

A relay signal converter with cyclical correction of the drift parameters. G. V. Suvorov, V. G. Maurer, and L. I. Tsytovich, No. 2, 404, 1976.

Using analog-digital converters with digit-by-digit weighting in nuclear spectroscopy. A. N. Volkov and I. V. Shtranikh, No. 3, 649, 1969.

Analog-code converter. B. A.Kotov and R. F. Surmanov, No. 4, 1059, 1971.

Block containing an analog-to-digital converter with a counter based on integrated microcircuits and luminous indication. N. M. Nikityuk, V. Popel'skii, and V. N. Semenov, No. 1, 106, 1971.

Analog-to-digital converter based on integrated microcircuits. N. M. Nikityuk, No. 1, 112, 1971.

Linear amplitude-number converter. S. I. Varvarin, B. P. Korolev, Yu. G. Kulesh, and A. I. Chernitsyn, No. 3, 764, 1971.

Fast amplitude-digital converter having a high resolving power. G. Reznikov and K. Tarnai, No. 2, 446, 1971.

Double utilization of a comparison amplifier in order to increase the accuracy of analog-digital converters. A. Kh. Mursaev, No. 5, 1322, 1974.

A linear converter for converting a resistance into a frequency based on integrated microcircuits. I. F. Ostrovskii, É. K. Shakhov, A. Ya. Éliasberg, and A. L. Zlatin, No. 1, 94, 1974.

Converters that convert a resistance to a frequency—time signal using heteropolar current sources. I. F. Ostrovskii and M. P. Shadrin, No. 5, 1319, 1974.

A voltage comparator based on integrated microcircuits for analog-digital converters with a high interference immunity. V. I. Koval'kov, No. 3, 713, 1974.

Precision voltage—frequency converter. L. B. Mashkinov, V. V. Batylin, and L. N. Gal'perin, No. 4, 1115, 1973.

Bipolar voltage—frequency converter with a high input impedance. T. M. Aliev, L. R. Seidel', and S. G. Saligov, No. 4, 1119, 1973.

Integrating voltage—frequency converter based on a one-junction transistor. G. A. Ali-Zade, Yu. B. Leshchinskii, and D. G. Ali-Zade, No. 4, 1117, 1973.

A high-speed voltage-code converter. G. I. Gotlib and V. Ya. Zagurskii, No. 2, 375, 1976.

A voltage—amplitude to time-interval converter. S. M. Telegin, V. N. Panteleev, and V. M. Shlyandin, No. 6, 1658, 1974.

A two-loop charging device for single-pulse amplitude—time converters and expanders. V. G. Ioffe, A. V. Logvinov, and Yu. V. Pshenichnikov, No. 2, 442, 1975.

A wide range voltage-pulse repetition rate converter. V. K. Sinitsyn and P. F. Khrist'yan, No. 3, 793, 1975.

An integrating quasisweeping voltage-to-time interval converter. V. G. Ovchinnikov, A. A. Zhurin, and E. K. Shakhov, No. 2, 400, 1976.

An integral-differential amplitude-to-time converter. S. N. Neustroev and V. A. Reshetov, No. 3, 796, 1975.

A linear direct current—frequency converter. O. I. Glinskaya, M. M. Kabanov, V. A. Markov, N. M. Semenov, S. A. Skorodumov, A. M. Tret'yakov, A. I. Fedorov, and N. I. Yakovlev, No. 6, 1855, 1973.

Broadband converter for converting the current of semiconductor nuclear-radiation detectors into a sequence of pulses. S. A. Zharkov, I. M. Vasil'ev, V. V. Perepechaev, A. V. Sidorenko, and M. M. Khokhlova, No. 4, 1064, 1971.

Semiconductor integrating pulse-frequency dc converter. E. A. Kalinin, V. A. Karpovskii, V. P. Komlev, and V. G. Chernov, No. 1, 138, 1972.

A precision converter for converting currents in the picoampere and nonampere range into a frequency. A. P. Bondarev, V. N. Radchenko, and L. A. Timokhin, No. 4, 1105, 1975.

A broadband linear current—frequency converter. I. A. Karapatnitskii, I. V. Kolchin, and I. I. Uvarov, No. 4, 1018, 1974.

A current–frequency converter for operation with an ionization chamber. V. G. Zinov and B. S. Krasnoborodov, No. 1, 92, 1974.
An analog-digital current–frequency converter with six decimal places. V. F. Kudryashov and A. I. Shaks, No. 4, 1015, 1974.
A fast charge-digital converter. S. G. Basiladze and P. K. Man'yakov, No. 2, 390, 1974.
Code disks of angle-code converters with arbitrary quantization. I. V. Naumov, No. 1, 88, 1974.
Operation of a 16-digit angle-Gray code transmitter without a converter. I. V. Naumov and A. E. Golovin, No. 1, 139, 1973.
Converter for converting RCL-parameters into a frequency-time signal. T. N. Ryzhevskaya and É. K. Shakhov, No. 4, 1153, 1972.
Digital transposer based on a ferrite memory block. F. M. Nagornyi and V. G. Obukhovskii, No. 3, 646, 1969.
A converter that converts single pulses recorded on the screen of a memory cathode-ray tube into a code. L. V. Karklit, V. N. Psurtsev, and E. N. Tverdokhlebov, No. 3, 710, 1974.
A compact converter for multichannel nonintersecting graphs. T. A. Aliev and A. N. Kolesnikov, No. 6, 1854, 1973.

6.8.2. Time-Interval Converters

Problems in accurate time measurement and investigations of ultrashort-duration processes (a survey). S. D. Fanchenko, No. 1, 1, 1961.
A time-amplitude converter. Yu. V. Korshunov and V. I. Fominykh, No. 6, 1655, 1974.
A compensation time-scale converter. V. A. Golovko, A. S. Kurashev, Z. V. Magrachev, and N. N. Tishchenko, No. 6, 1652, 1974.
A capacitive time-interval converter. V. A. Golovko, Z. V. Magrachev, and N. N. Tishchenko, No. 4, 1026, 1974.
Interval timer with loop-oscillograph recording. Yu. A. Panov and G. A. Tsyba, No. 1, 297, 1970.
Time-amplitude converter for the nanosecond range. L. V. Sidorov, No. 2, 434, 1970.
Time-amplitude converter for the nanosecond range. B. G. Bazova, V. A. Kachalin, and B. I. Starostov, No. 4, 1034, 1970.
Time-amplitude converter for the nanosecond range with preliminary pulse selection. V. I. Kryshkin, V. N. Stibunov, and N. P. Fedorov, No. 6, 1617, 1970.
Wide range time-amplitude converter. A. A. Sanin and P. N. Shareiko, No. 3, 788, 1970.
Wide range time-to-pulse-height converter. A. F. Chernyavskii, M. I. Demchuk, K. N. Bakinovskii, and A. K. Yakushev, No. 3, 957, 1970.
Decatron two-time-interval setting device. V. G. Grishin and V. F. Korotkii, No. 6, 1699, 1970.
Small-scale semiconductor timer. K. M. Lekishvili, A. A. Dzidziguri, O. L. Khazaradze, A. Sh. Vezirishvili, and U. G. Marmarashvili, No. 5, 1380, 1970.
Expander for high-resolution amplitude analysis. A. I. Gonchar and A. N. Utyuzhnikov, No. 2, 436, 1967.
Microsecond width-height converter. S. G. Basiladze, No. 4, 782, 1967.
Compensation for increasing the accuracy of time-interval measurements. V. D. Maisyukov and S. N. Fedorchenko, No. 6, 1310, 1967.
"Time-to-digital code" converters in the nanosecond range. A. A. Ivanov, No. 1, 113, 1966.
Equipment for precision measurements of time intervals. V. N. Deryagin, S. S. Barkalov, and V. S. Moiseev, No. 6, 1696, 1970.
Time-digital converter. V. M. Grebenyuk and V. G. Zinov, No. 2, 369, 1972.
Conversion of a nanosecond time interval into a code. B. P. Barkov, Yu. V. Katinov, and A. I. Sutormin, No. 4, 1071, 1972.
Analysis of the principal metrological characteristics of Vernier time-pulse converters. V. V. Danilevich, A. F. Chernyavskii, and A. K. Yakushev, No. 3, 732, 1972.
A time-amplitude converter having a resolving time ∿10 psec. V. V. Danilevich, A. F. Chernyavskii, and A. K. Yakushev, No. 4, 1101, 1975.
Time-scale converter. E. N. Belov, N. E. Zhorov, and A. K. Solov'ev, No. 2, 433, 1973.
An analog device for the conversion of short time intervals. E. A. Meleshko, No. 5, 1405, 1973.
Analog converter of short time intervals based on integrated circuits. A. I. Klimov and E. A. Meleshko, No. 3, 713, 1976.

Pushbutton controlled digital timer. E. I. Artamonov, No. 3, 597, 1968.
Ten-channel timer using transistors. Yu. I. Nechaev, No. 1, 103, 1968.
Wide-band time-to-amplitude converter. Yu. G. Budyashov and V. G. Zinov, No. 4, 868, 1968.
Nanosecond time-to-amplitude converter. M. K. Efimchik, A. M. Zaitseva, and A. F. Chernyavskii, No. 2, 348, 1968.
Time-to-pulse-height converter with automatic protection of the measuring circuits against large loads. K. N. Bakinovskii, V. A. Danilov, and A. F. Chernyavskii, No. 4, 1004, 1968.
Time-to-amplitude converter of photomultiplier pulses. Yu. I. Il'in, V. A. Chirkin, and M. V. Savin, No. 2, 345, 1968.
Time-amplitude converter in the microsecond range for investigating asymmetry of $\mu-e$-decay. E. A. Meleshko, No. 5, 1094, 1968.
High-speed tracking time selector. M. V. Korolev, No. 6, 1380, 1968.
Interpolation time-interval meter. G. A. Aver'yanov and E. G. Lebed'ko, No. 4, 1005, 1968.
IVI-1 time-interval meter. L. S. Zazhigaev, V. A. Matnya, N. I. Pashkov, G. I. Savinov, and V. S. Yaroslavtsev, No. 4, 863, 1968.
A time interval-to-digital code converter based on integrated circuits. Yu. M. Valuev, V. M. Grebenyuk, and V. G. Zinov, No. 2, 371, 1976.
A high-speed time converter. V. G. Stupak, K. A. Leontovich, and I. I. Zalyubovskii, No. 1, 110, 1961.
Millimicrosecond time-amplitude converter. A. A. Ivanov, V. M. Lytkina, L. A. Matalin, and S. I. Chubarov, No. 4, 688, 1961.
A time converter based on a cathode-ray tube. A. A. Ivanov and L. A. Matalin, No. 2, 302, 1962.
A circuit for the conversion of a time interval to an amplitude. O. S. Kolotov and A. S. Sanin, No. 5, 1043, 1962.
A capacitive time-interval expander. A. I. Gordienko and A. A. Iogansen, No. 6, 1144, 1962.
A time-to-amplitude converter employing semiconductor components. A. A. Ivanov and V. S. Nesterenko, No. 6, 1141, 1962.
An instrument for measuring time intervals with a high accuracy. N. A. Pelykh, A. V. Pronyushkin, V. P. Golovkov, and G. V. Dobrovol'skii, No. 2, 297, 1962.
A millisecond matrix chronometer. G. I. Mishin, No. 5, 970, 1962.
Precision time-code converter with Vernier interpolation. I. A. Malevich and A. F. Chernyavskii, No. 5, 1586, 1971.
Time-pulse converter based on an analog-dynamic memory device. K. N. Bakinovskii, V. D. Grek, I. A. Malevich, A. F. Chernyavskii, and A. K. Yakushev, No. 2, 450, 1971.
Time-pulse voltage converter based on integrated microcircuits. Yu. A. Masyurenko and Yu. P. Yurchenko, No. 5, 1390, 1971.
Application of statistical averaging in order to improve the differential linearity of a time analog-digital converter. V. G. Demenkov, Yu. S. Kulabukhov, V. S. Nesterneko, and L. A. Timokhin, No. 6, 1676, 1971.
Increasing the linearity of the time scale of a time-amplitude code converter. V. V. Danilevich, S. M. Dmitriev, A. F. Chernyavskii, and A. K. Yakushev, No. 3, 729, 1972.
Nanosecond-range time–amplitude converter. V. M. Kuznetsov, G. N. Petlin, and V. K. Tomchakov, No. 3, 711, 1976.
Thousand-fold linear pulse-duration converter. S. V. Shtolin, No. 3, 716, 1976.
Simple time expander. Yu. V. Malovichko, No. 3, 718, 1976.

6.8.3. Code-to-Code and Code-to-Voltage Converters

An instrument for converting readings from the binary system to the decimal system. N. I. Zaika, G. B. Lyubanskii, and O. F. Nemets, No. 6, 990, 1960.
Binary to binary-decimal code converter. N. I. Zhuravlev, Nguyen Man Shat, A. N. Sinaev, and A. A. Stakhin, No. 6, 1644, 1976.
Device for converting a pulse train into binary-sequential and parallel codes. N. N. Balamatov and A. S. Sirotkin, No. 3, 775, 1973.
High-speed decoder for converting channel numbers from a decimal code to a binary code. V. V. Smirnov and Yu. N. Simonov, No. 4, 1099, 1973.
High-speed converter for converting a parallel code into a sequential code and a sequential code into a parallel code. V. D. Dvornikov, O. D. Efremov, and L. I. Yudin, No. 1, 311, 1973.

Direct conversion of a binary code into a binary-decimal code. A. N. Volkov, E. V. Golubovskii, A. M. Klabukov, and I. V. Shtranikh, No. 1, 82, 1974.
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Measurement of the time characteristics of photoresistors. A. I. Andrushko, No. 6, 1733, 1974.
Instrument for measuring small capacitances. N. M. Bratasyuk, No. 1, 193, 1975.
Measurement of impedances by means of a frequency-response meter. Yu. G. Boltovskii, No. 5, 1496, 1975.
Restoration of quartz resonators. B. Sh. Berenshtein and L. N. Karpova, No. 2, 626, 1975.
An automatically controllable variable resistance. A. E. Patrakhin, No. 2, 469, 1976.
Capacitance—voltage characteristics gauge. A. A. Grebennikov and Yu. G. Sukharev, No. 2, 598, 1976.
Device for measuring admittance parameters of two-terminal networks. I. D. Borinets, I. Ya. Kozyr', and V. N. Fedorov, No. 5, 1427, 1976.
Wide-range percentage ohmmeter. V. A. Labunov, V. A. Sokol, S. V. Chukaev, and A. A. Mozhukhov, No. 6, 1848, 1976.
Shch68200 Resistance comparator. Yu. I. Ushakov, No. 4, 1254, 1976.
Digital meter for measuring parameters of inductance coils. A. I. Martyashin, P. P. Churakov, V. M. Shlyandin, and E. D. Kalita, No. 5, 1581, 1976.
Digital meter for parameters of four-port amplitude—frequency response. V. A. Kon'kov, A. B. Kazarinov, E. K. Levin, and A. D. Pozdnyakov, No. 2, 597, 1976.

7.1.2. Measurement of Active Radio Components

Effect of radiation exposure on field-effect transistor parameters (review). V. Ya. Stenin, No. 2, 273, 1969.
Obtaining temperatures below 1°K by the method of evacuation of vapor above liquid He^4 (review). A. D. Shvets, No. 3, 1017, 1965.
Device for the visual observation of amplitude characteristics. V. P. Derkach and P. A. Katkov, No. 6, 824, 1958.
Oscillographic method of determining detector curve parameters. V. N. Dobrovol'skii, No. 1, 137, 1958.
A circuit for rapidly recording barrier layer photocell curves. V. K. Subashiev, No. 1, 139, 1958.
The lighting of gas-discharge devices. T. A. Sanina, A. A Sanin, and N. R. Fedorenkova, No. 1, 129, 1958.
Grid-current measurements in tubes used in low-noise amplifiers. A. A. Vorob'ev, V. A. Korolev, and G. E. Solyakin, No. 1, 88, 1959.
Plotting the characteristics of transistors in the saturation region. G. N. Berestovskii, No. 5, 841, 1959.
Determining the light-response characteristic of photoresistors. B M. Bulkonskii, No. 2, 315, 1959.
Speedy measurement of barrier layer photoelectric cell characteristics. A. Ya. Gliberman, No. 6, 944, 1959.
A transient-response meter for the study of fast physical processes. O. S. Kolotov and V. A. Pogozhev, No. 6, 1101, 1963.
A simple method for measuring tunnel diode parameters. Yu. I. Vorontsov and I. V. Polyakov, No. 6, 1163, 1963.
Cathode-ray tube curve tracer with a magnetic tape memory. V. S. Ekaterinin, No. 4, 904, 1964.
Stabilizing the initial current of a logarithmic diode. A. S. Eremin, I. V. Malyshev, and B. S. Rozov, No. 1, 224, 1964.
The use of electroluminescent capacitors in electronic circuits and instruments. I. A. Mishustin, No. 6, 1425, 1965.
Apparatus for plotting the frequency characteristics of the sensitivity of photoreceivers. N. Sh. Khaikin, No. 3, 690, 1966.
Measuring the capacity of semiconducting diodes by the zero beats method. Yu. S. Provornov, No. 3, 629, 1968.
Automatic recording of the volt-ampere characteristics of a field-emission cathode. A. V. Lonskii, G. N. Fursei, and Yu. N. Kiselev, No. 3, 638, 1968.
Transistorized circuit for investigating discharge modes in diodes. É. P. Busygin, V. G. Grigor'yants, B. G. Zhukov, and I. P. Yavor, No. 4, 940, 1969.
Determination of some tunnel-diode parameters. E. E. Osipov, No. 1, 258, 1969.
Automatic bridge for the measurement of volt-ampere characteristics on nonlinear components. Ya. G. Ponomarev and A. V. Rakhmanina, No. 5, 1385, 1970.

Measuring the Hall emf produced by alternating electric and magnetic fields. V. A. Nadtochi and N. K. Nechvolod, No. 2, 505, 1970.

Equipment for measuring the parameters of the logarithmic characteristics of nonlinear elements in the very low current region. L. A. Vsevolozhskii, A. M. Ilyukovich, and I. P. Mikhailova, No. 3, 855, 1970.

Comparator based on integrated circuits. V. D. Kozlov, No. 1, 167, 1971.

Instrument for automatic measurement of the phase-amplitude responses of four-ports. G. A. Vitmaer, G. G. Krasikov, S. N. Popov, and K. M. Shul'zhenko, No. 5, 1586, 1971.

Meter for measuring the noise factor of two-ports. L. P. Karba, Yu. S. Karpov, and G. S. Porovskii, No. 1, 150, 1971.

Network for automatic recording of volt-ampere characteristics. G. L. Brusilovskii, V. A. Silin, I. A. Kartuzova, and Yu. G. Shishkin, No. 1, 190, 1971.

Measurement of the loss resistance of semiconductor diodes. V. S. Blagoveshchenkii, G. Kh. Zyryanov, and V. L. Yanyushkin, No. 3, 823, 1971.

Variation of the time characteristics of semiconductor electron-stream amplifiers. V. B. Fedorov and V. V. Tsvetkov, No. 6, 1782, 1971.

Device for measuring the loss resistance of semiconductor diodes. V. S. Blagoveshchenskii, G. Kh. Zyryanov, and V. L. Yanyushkin, No. 2, 618, 1972.

Measurement of volt-ampere characteristics of thermionic converters using bipolar pulses having a high-duty ratio. B. N. Igumnov, V. P. Evilin, and V. D. Murguliya, No. 3, 802, 1973.

Instrument for recording time resolution curves of logical circuits. Yu. B. Bushnin and A. F. Dunaitsev, No. 4, 1281, 1973.

A tester for checking integrated logical microcircuits. Yu. V. Troitskii and V. N. Khaletskii, No. 6, 1855, 1973.

A tester for checking integrated operational amplifiers. Yu. V. Troitskii and V. N. Khaletskii, No. 6, 1856, 1973.

Matching the characteristics of field-effect transistors. A. V. Tyurev and E. I. Snetkov, No. 3, 771, 1974.

Stabilizing the operating voltage of an avalanche photodiode. V. V. Korolev and O. M. Berlizova, No. 3, 868, 1975.

Empirical expressions for temperature dependence of photodiode parameters. G. A. Stepanova, V. A. Baranov, L. S. Volkova, and R. Kh. Zakirov, No. 2, 523, 1975.

Instrument for measuring the dielectric parameters of semiconductors. Yu. G. Podkin, No. 3, 854, 1975.

Integrated-circuit curve tracer. A. S. Terent'ev and V. P. Psurtsev, No. 1, 195, 1975.

A pulsed curve tracer for Gunn diodes. K. K. Utkin and A. S. Tokarev, No. 1, 304, 1976.

A circuit for instantaneous checking of the amplitude of a sinusoidal signal by its minimum. G. N. Slavskii and U. B. Soltamov, No. 1, 71, 1960.

An electronic millisecond Vernier chronograph. G. I. Mishin, No. 5, 743, 1960.

A broadband phase meter with direct reading. V. P. Volodin and Yu. N. Polyakov, No. 3, 447, 1960.

A single-channel phase meter with frequency multiplication. V. I. Medvedev, No. 3, 449, 1960.

Measurement of small phase differences of two sinusoidal voltages. R. G. Karpov, No. 1, 62, 1960.

A phase detector using a mixer tube and phase modulation. Yu. V. Popov, No. 3, 433, 1960.

A gas-discharge phase discriminator. I. P. Karabekov, No. 2, 266, 1960.

Transformation of signal frequency by means of photomultipliers. A. Yu. Borisov, No. 5, 748, 1960.

Phase shifting by means of frequency dividers. M. A. Rakov, No. 2, 317, 1961.

A phase converter with smooth changes of phase over a wide range. V. N. Kachinskii, No. 1, 108, 1961.

A ferrite phase inverter for the UHF range. F. P. Nifant'eva, No. 1, 102, 1961.

Phasometer with a servo system. N. I. Kalashnikov, No. 2, 326, 1961.

Measurement of small phase differences of sinusoidal oscillations. N. A. Pogarskii, No. 1, 107, 1961.

An instrument for the measurement of time intervals. A. N. Pelykh and A. V. Pronyushkin, No. 4, 705, 1961.

Constant amplitude phase shifter. A. A. Meier and E. A. Soldatov, No. 3, 523, 1962.

A phaseometric attachment for an oscillograph. N. F. Semenyuta, No. 5, 1044, 1962.
Measuring the phase characteristics of transfer elements in transmission lines. A. N. Ivanov, No. 2, 427, 1965.
Timer with decatrons using semiconductor devices. G. S. Zinov'ev and V. M. Rozhkov, No. 2, 425, 1965.
A frequency divider with a variable division factor. R. P. Chubarov, No. 3, 646, 1966.
An electronic chronograph of increased accuracy. G. E. London, No. 3, 650, 1966.
An attachment to the PS-10000 scaler for measuring time intervals. V. Ya. Lodin and I. N. Filatov, No. 2, 484, 1966.
A stable timing relay with great time lags. A. A. Akhlynin and N. V. Vershinin, No. 2, 482, 1966.

7.1.3. Measurement of Time, Frequency, and Phase

Principles of designing digital time-interval meters (review). A. K. Kovtun and A. N. Shkuro, No. 1, 1, 1973.
The measurement of phase differences (a review). V. P. Kovalev, No. 2, 173, 1958.
Digital methods of measuring phase shift (survey). S. S. Kuznetskii and M. K. Chmykh, No. 5, 1253, 1970.
An instrument for measuring microsecond intervals of time. B. A. Predein, No. 2, 208, 1958.
Measurement of variable phase velocity in a waveguide. O. A. Val'dner and N. P. Sobenin, No. 4, 473, 1958.
Measurement of the variation of the phase path of a signal reflected from the ionosphere. L. A. Drachev, No. 2, 238, 1958.
High-accuracy frequency meter. R. I. Utiamyshev, No. 3, 386, 1958.
Heterodyne instrument for precise measurement of rotational velocities. R. I. Utiamyshev, No. 4, 528, 1958.
Effect of voltage curve shapes on readings of electronic phasemeters. N. P. Polyakov, No. 2, 237, 1959.
Transformation of sinusoidal signals into short pulses. V. I. Nikitenko and A. N. Pegoev, No. 2, 289, 1959.
Device for measuring time intervals. V. S. Golub, No. 2, 311, 1959.
Systematic errors of digital phase meters with a constant time of measurement. N. P. Polyakov, No. 3, 426, 1959.
Automatic-frequency-control system using a superconducting resonator. F. F. Mende, V. M. Dmitriev, E. V. Khristenko, and G. E. Churilov, No. 3, 575, 1967.
Stabilizing the frequency of a klystron in the millimeter range with an open resonator. Ya. L. Shamfarov, No. 4, 816, 1967.
Discriminator with an intermediate-frequency error signal for automatic frequency control of a reflex klystron. F. F. Mende, V. M. Dmitriev, E. V. Khristenko, and G. E. Churilov, No. 3, 676, 1967.
Frequency division for a wide range of change in division coefficient. V. B. Efimov and E. A. Berdyanskii, No. 6, 1344, 1967.
Signal-frequency image converter. N. V. Kravtsov and L. E. Chirkov, No. 6, 1341, 1967.
Variable time delay generator. V. A. Vizir', and P. P. Krasnonosen'kikh, No. 2, 355, 1967.
Recording the results of measurements made with the ChZ-12 frequency meter. V. N. Smirnov, No. 5, 1351, 1969.
Paraphase step voltage shaper. L. V. Derbunovich and A. A. Proskurov, No. 6, 1455, 1969.
Instrument for measuring the damping rate of oscillations. A. V. Longinov, No. 2, 484, 1970.
Wideband frequency divider of a sinusoidal signal that has an adjustable division factor. V. A. Uvarov and V. P. Gusev-Donskoi, No. 4, 1089, 1970.
Frequency multiplication with a thin magnetic film. N. N. Kurdyumov and V. V. Potemkin, No. 4, 1210, 1970.
Phase-metering attachment for a digital frequency meter. S. S. Kuznetskii, M. K. Chmykh, S. P. Pan'ko, and V. P. Ryazantsev, No. 1, 156, 1970.
Measurement of the instantaneous phase stability of a harmonic frequency generator. A. F. Dunaitsev, Yu. D. Prokoshkin, and Yu. N. Simonov, No. 1, 160, 1970.
Phase-generating equipment for the 10^{-3}-10^{3} Hz range. S. A. Kravchenko, No. 3, 958, 1970.
Automatic phase control of a cyclotron deflecting voltage. N. S. Biryukov, B. V. Zhuravlev, V. I. Plaskin, and O. A. Sal'nikov, No. 6, 1664, 1970.
Stable frequency modulator based on varicaps. V. E. Korepanov and V. G. Barsukov, No. 1, 154, 1971.

Broadband frequency doubler based on semiconductor triodes. B. M. Bogdanovich and G. P. Presnyakov, No. 1, 156, 1971.
Radio-frequency phase meter. L. N. Novikov and L. G. Malyshev, No. 4, 1104, 1971.
Method of measuring phase difference using double frequency conversion. A. M. Vishnevskaya and B. V. Prosin, No. 1, 161, 1971.
Error of measurements made by means of a digital frequency meter with a phasemeter attachment. V. V. Borisochkin and V. I. Nestulei, No. 3, 942, 1971.
Digital phasemeter for a phase-shift fluorometer. A. I. Gorelik and A. V. Fal'tsman, No. 2, 428, 1972.
Instruments for dynamic measurements of the phase of an electrical signal. Yu. I. Bekhtin, No. 5, 1458, 1972.
A phase-instability meter. Yu. M. Veshkurtsev, No. 6, 1784, 1972.
Digital time-interval meter. S. V. Denbnovetskii, A. K. Kovtun, and A. N. Shkuro, No. 4, 1283, 1972.
Increasing the speed of response of Vernier time-interval meters. A. A. Bogoroditskii, V. G. Ermakov, T. N. Ryzhevgskaya, and A. G. Ryzheskii, No. 5, 1387, 1972.
Multichannel time generator based on decatrons. V. A. Arkhipovich, No. 1, 111, 1972.
Speed of response of a frequency divider based on Schmitt triggers. V. V. Marchenko and B. A. Ivanov, No. 2, 431, 1972.
Broadband frequency-shift device. K. E. Mirakov, No. 4, 1132, 1972.
Six-channel electronic phase shifter. G. N. Akimov and G. I. Kugushev, No. 5, 1461, 1972.
A "box" of discrete phase values. I. Sh. Solomonik and K. M. Shul'zhenko, No. 6, 1889, 1972.
An RC second-timer. V. S. Anufriev, V. Zh. Elizarov, and P. I. Karasov, No. 2, 653, 1973.
A nanosecond pulse amplifier with an increased output voltage. A. N. Kolesov, A. N. D'yachko, and L. P. Donskikh, No. 3, 979, 1973.
Phasemeter attachment to batch manufactured digital frequency meters. S. S. Kuznetskii, M. K. Chmykh, S. B. Shestak, V. V. Kravchenko, A. E. Teterin, and A. M. Fishtein, No. 1, 335, 1973.
A phase-frequency response meter. M. K. Chmykh, A. S. Glinchenko, M. M. Michurina, and V. M. Musonov, No. 4, 1289, 1973.
A controlled phase shifter based on field-effect transistors. V. I. Kostenko, No. 6, 1731, 1973.
A digital meter of time intervals with picosecond resolution and a wide dyanmic range. S. G. Basiladze, V. A. Smirnov, and V. Tlachala, No. 6, 1647, 1974.
A four-channel oscillographic timer. E. É. Goller, A. Ya. Sidorin, V. N. Abakova, and V. S. Kotov, No. 3, 918, 1974.
Precision measurement of time shifts between periodic pulse processes. V. N. Deryagin, L. E. Marasin, and Yu. V. Popov, No. 2, 423, 1974.
A counter divider. A. N. Zelenin, N. K. Svergunenko, O. I. Gubernatorov, A. F. Ivanchenko, and A. G. Dovbnya, No. 4, 1235, 1974.
Electronic clock with presetting. V. E. Yamnyi, V. V. Shlyakhtin, and V. V. Radkevich, No. 4, 1236, 1974.
Obtaining fractional division factors by means of the IK3-15 counter divider. A. N. Zelenin, A. V. Il'chenko, Yu. I. Skorokhodov, and N. K. Svergunenko, No. 4, 1219, 1974.
A 1-MHz quartz resonator with a Q factor of $4.2 \cdot 10^9$ at a temperature of 2°K. A. G. Smagin, No. 6, 1721, 1974.
A meter for the frequency characteristics of nonstationary electrical circuits. E. D. Kramskoi, A. V. Longinov, G. A. Mironshnichenko, and G. Ya. Nizhnik, No. 6, 1808, 1974.
Frequency correction to 10^{-8} by ruby laser for precision quartz crystals. A. G. Smagin, No. 5, 1397, 1974.
A digital phasemeter. M. K. Chmykh, A. S. Glinchenko, and G. M. Aldonin, No. 5, 1542, 1974.
A high-precision phase-difference meter. A. S. Limonov, B. I. Poronik, and I. V. Peretyagin, No. 6, 1707, 1974.
A multirange phasemeter with the measurement ranges ±180, ±360, ±720, ±1440°. V. E. Ryadchikov and B. P. Sokolov, No. 4, 1056, 1974.
A high-frequency phase calibrator. S. R. Stefanov and E. M. Cherenkova, No. 3, 774, 1974.
The input stage of a broadband phasemeter. A. M. Fishtein, No. 1, 144, 1974.
A phase-shift generator. P. E. Stadnik and V. I. Kostenko, No. 6, 1710, 1974.
A time-interval meter for laser ranging. Yu. N. Artyukh, G. I. Gotlib, and V. Ya. Zagurskii, No. 5, 1655, 1975.

Instrument for measuring small fluctuations of time intervals. A. S. Glinchenko and M. K. Chmykh, No. 1, 315, 1975.

A compact instrument for locking time scales in accordance with television signals. Yu. A. Fedorov and V. Ya. Bol'shakov, No. 4, 1316, 1975.

Frequency meters using devices with S-shaped volt—ampere characteristics. V. M. Kul'gavchuk, No. 2, 514, 1975.

A digital frequency divider. B. G. Sharinov, G. A. Seraziev, and K. S. Nikonov, No. 1, 166, 1975.

Use of a microwave converter operating on the basis of the hot-charge-carrier thermal emf effect for phase-measurement devices. V. S. Pitanov, No. 5, 1487, 1975.

A wide-range phase-voltage converter. A. M. Fishtein, No. 2, 504, 1975.

A controllable phase shifter. V. I. Kostenko and O. N. Dem'yanko, No. 5, 1489, 1975.

A phase shifter for the 1-20 kHz frequency region. V. I. Kostenko, V. S. Suzdal', V. N. Zvyagintsev, V. L. Vasil'chuk, and Yu. M. Epifanov, No. 1, 175, 1975.

Phase-pulse discriminator for measuring of nanosecond time intervals. I. D. Mitsenko and S. K. Borisov, No. 1, 144, 1975.

Broadband phase detector based on a field-effect transistor. I. P. Ryabokon', No. 5, 1484, 1975.

A multichannel apparatus for recording of VLF signals. N. F. Vollerner, N. M. Todosienko, S. V. Balitskii, O. A. Gornitskii, A. S. Ryzhanovskii, and V. K. Chelpanov, No. 2, 659, 1975.

Time counter. N. A. Filin and A. V. Trofimov, No. 5, 1582, 1976.

Digital frequency meter with high noise immunity. V. G. Patykov, S. A. Podlesnyi, and M. K. Chmykh, No. 5, 1581, 1976.

Wide-range time-interval synthesizer with nanosecond scale. V. I. Ivanov, V. M. Baranchikov, and I. M. Malevich, No. 6, 1843, 1976.

A multistage stable-frequency divider based on synchronized RC self-excited oscillators. Yu. A. Veideman and P. A. Popov, No. 1, 139, 1976.

Pulsed frequency multiplier for multiplication by a fractional factor. B. G. Kozlov, No. 3, 719, 1976.

Wide-band transistor frequency doubler. S. F. Otchalko, V. F. Otchalko, and N. N. Shtarev, No. 6, 1696, 1976.

Pulsed phase detector. G. V. Basalaev and É. I. Pavlyuk, No. 4, 1070, 1976.

Low- and extra-low-frequency noise generator. E. I. Dikun, No. 2, 595, 1976.

Selecting switch elements in a synchronous filter. V. I. Zametin, No. 4, 1074, 1976.

7.1.4. Measurement of Current

Measurement of the quality of electricity in a current pulse. I. N. Blazhevich and V. I. Smirnov, No. 2, 222, 1958.

Measurement of the quality of electricity in a short current pulse. I. N. Blazhevich and V. I. Smirnov, No. 2, 225, 1958.

Aircraft instrument for measuring the charge on particles of precipitation. I. M. Imianitov and V. V. Mikhailovskaia, No. 2, 273, 1958.

Transistor dc converters for instrument amplifiers. K. B. Karandeev, V. I. Gol'dgefter, and M. G. Mizyuk, No. 2, 241, 1959.

Direct to alternating current converter based on Hall's effect. V. N. Bogomolov, N. S. Nikolaenko, and V. P. Fedotov, No. 2, 313, 1959.

Measuring large direct currents by means of an integrating loop based on the Hall effect. V. V. Serkov, No. 1, 125, 1962.

An instrument for measuring small currents and voltages. D. E. Polonnikov, No. 1, 61, 1963.

A low input impedance current integrator. Yu. A. Blyumkina and N. N. Semenova, No. 6, 1114, 1963.

A current integrator with a compensating capacitor. N. G. Afanas'ev and V. I. Startsev, No. 4, 993, 1966.

Integrator of very low currents. A. M. Ilyykovich and I. A. Kulikova, No. 1, 112, 1967.

Current integrator with controlled gate. N. G. Afanas'ev, V. M. Denyak, V. I. Startsev, and P. P. Pal'-Val', No. 2, 363, 1968.

Measurement of small currents using instruments with integrators and differentiators. Yu. N. Rodionov, No. 1, 260, 1969.

Noncontact current probe. Yu. A. Bystrov and E. B. Isserlin, No. 3, 690, 1969.

Portable apparatus for measuring electrostatic charges. L. G. Gross and Yu. A. Petrov, No. 1, 270, 1969.
Contactless current commutator in a load. B. A. Volkov, No. 3, 866, 1970.
Precision shunt for recording mega-ampere currents. S. I. Andreev and R. A. Liukonen, No. 3, 868, 1970.
Use of a sign correlator for improving the accuracy with which weak direct currents are measured. L. L. Klyuev, R. G. Khekhnev, and A. N. Zernov, No. 6, 1640, 1970.
Digital meter for measuring ion-current ratios. A. S. Meleshkin, Z. V. Oreshkina, and A. É. Rafal'son, No. 4, 1160, 1972.
Precision meter for measuring weak direct currents. L. L. Klyuev, A. N. Zernov, A. I. Prokhorov, and R. G. Khekhnev, No. 2, 632, 1973.
A meter for measuring weak alternating currents. Yu. D. Krisilov, V. I. Startsev, and N. I. Tarasov, No. 5, 1476, 1973.
A gas-discharge device for contactless current measurements. Yu. A. Bystrov and Yu. F. Radchenko, No. 5, 1394, 1974.
Contactless noncircuit-breaking measurement of large currents. Yu. A. Bystrov, N. A. Griboedov, E. N. Zagranichnyi, and Yu. F. Radchenko, No. 6, 1717, 1976.
Instrument for measuring current by the contactless method. Yu. A. Bystrov, R. L. Semenov, and M. M. Sergeeva, No. 1, 303, 1976.
Simple integrator for integrating negative currents. V. A. Voronov, É. I. Kebin, A. I. Mokhamed, Yu. I. Nechaev, and V. G. Sukharevskii, No. 5, 1420, 1976.

7.1.5. Measurement of Voltage

Measurement of high voltages. A. A. Aizenshtein, No. 1, 133, 1958.
A transistor dc millivoltmeter. K. B. Karandeev, M. G. Mizyuk, and N. I. Smirnov, No. 2, 244, 1959.
An exponential amplification circuit. I. A. Mishustin, No. 2, 295, 1959.
Amplifiers. L. B. Krasil'shchikov and A. M. Brounshtein, No. 5, 832, 1960.
A logarithmic microvoltmeter. A. N. Vetchinkin, No. 4, 781, 1961.
An instrument for measuring the voltage at a given point on the curve of a periodic process. L. B. Katsnel'son, F. I. Kogan, and E. L. Shorin, No. 5, 988, 1962.
The input stage for an instrument that measures small emf's for small source resistances. A. N. Vystavkin and P. G. Mel'nik, No. 1, 177, 1963.
One method for square-law detection of signal amplitudes. V. V. Belikovich and M. V. Kunilov, No. 1, 117, 1964.
High-speed digital voltmeter. A. I. Skripnikov, No. 1, 305, 1970.
Combined cathode follower and preamplifier for the measurement of semiconductor noise. R. A. Baltrushaitis and V. E. Kudaba, No. 1, 114, 1965.
Widening the possibilities of the VLU-2 (V7-2) vacuum-tube voltmeter for measuring dc voltages. V. Ya. Kirsei, No. 6, 1540, 1965.
A pulse-frequency voltage converter. E. M. Proshin, No. 4, 986, 1965.
Converting voltage to frequency with a high degree of linearity. V. A. Shkol'nyi, No. 1, 215, 1965.
Electronic digital voltmeter as a voltage integrator. U. Veismann, No. 6, 1486, 1966.
Driftless integrator with negative feedback. Yu. E. Kivokurtsev, No. 4, 886, 1966.
Effective-fluctuation-noise-voltage meter. V. I. Vasil'ev, V. S. Grigor'ev, and V. F. Peterson, No. 4, 814, 1967.
Device for measuring maximal values. A. I. Kordobovskii and Yu. F. Filimonov, No. 1, 116, 1967.
Voltage divider with electronically switched transfer constant. G. S. Orduyan and A. V. Pipinov, No. 2, 368, 1967.
High-resistance miniature semiconductor voltmeter. L. I. Gershtein, No. 5, 1173, 1968.
Linear voltage-to-frequency transformer. V. I. Prokopenko, No. 5, 1206, 1969.
Multiplication of two signals in the audio-frequency range with averaging of the results. G. S. Liubashevskii, A. I. Orlov, and V. E. Frishberg, No. 2, 420, 1969.

Indicator for the sign of a weak signal. É. S. Burunsuzyan and O. V. Leonov, No. 1, 166, 1970.
Sensitive synchronous detector. K. P. Abdurakhmanov and B. A. Kotov, No. 3, 801, 1971.
Attachment for measuring infralow-frequency voltages. V. V. Losev, No. 3, 799, 1971.
Automatic recorder for slowing varying voltages. N. N. Balamatov, Yu. V. Berezin, and V. A. Kiselev, No. 1, 160, 1972.
Peak detector with automatic reset. V. G. Zubov and Z. R. Mychuda, No. 4, 1151, 1972.
Voltmeter for a thermoanamometer. G. P. Eremin, V. M. Shkredov, O. P. Lappa, and L. D. Khoronevich, No. 4, 1166, 1972.
Application of light-emitting diode matrices in measurement engineering. A. A. Kal'min and Yu. M. Tairov, No. 1, 163, 1972.
Measurement of high voltage by a rotor voltmeter through dielectric media. M. T. Novikov and V. M. Grizhko, No. 3, 881, 1972.
Modulation of the transmission factor of resistive dividers in measuring a high dc voltage. K. L. Grudev, No. 2, 465, 1972.
A null detector. V. F. Boreiko, V. M. Grebenyuk, and V. G. Zinov, No. 6, 1782, 1972.
Null indicator for compensation circuits. L. I. Anatychuk and I. A. Buchkovskii, No. 4, 1266, 1972.
Null element based on a photocompensation amplifier. A. V. Vul'fson, A. D. Korobov, and V. M. Yagodkin, No. 2, 639, 1973.
A dc microvoltmeter. V. G. Zubov and D. A. Yurkovskii, No. 3, 980, 1973.
A low-emf measurement commutator. Yu. G. Basin, Yu. A. Grits, and V. I. Isachenko, No. 5, 1593, 1973.
An analog device for dividing two voltages. V. I. Voronin, No. 6, 1741, 1973.
Measurement of a high voltage by a rotor voltmeter using an insulated electrode. M. T. Novikov, No. 5, 1591, 1973.
An electrostatic-potential indicator. A. S. Mis'nik and V. A. Mis'nik, No. 6, 1861, 1973.
A digital voltmeter with automatic selection of the recording time. N. N. Balamatov, No. 2, 379, 1974.
Block for coupling a VK7-10A/1 voltmeter to an MPU16-2 printer. Yu. V. Drunin, A. S. Meleshkin, Z. V. Oreshkina, and O. I. Orlov, No. 1, 297, 1974.
An integrator for a low-frequency voltage. A. G. Golovko and T. D. Shermergor, No. 6, 1698, 1974.
A bipolar peak detector. V. A. Sukatskas, No. 4, 1054, 1974.
A transistorized peak-detector block. V. G. Galalu, No. 1, 146, 1974.
A zero-crossing detector of high phase and amplitude stability. A. M. Fishtein, No. 6, 1704, 1974.
The Shch68000 digital volt-ammeter. G. V. Miroshnikov, V. A. Shumkin, V. I. Polstvin, V. M. Efanov, and N. V. Derka, No. 5, 1644, 1975.
An integrating attachment to the VK7-10A/1 digital voltmeter. A. S. Martynyuk, No. 4, 1296, 1975.
The N708 electronic digital register. V. I. Borodkina, V. P. Matusevich, L. V. Polyakova, and L. A. Fedorova, No. 6, 1983, 1975.
The NFK-2 and PFK-2 photogalvanometric autocompensation instruments having a limiting sensitivity to current and voltage. S. G. Rabinovich and E. A. Troitskii, No. 5, 1646, 1975.
A multichannel recorder for slowly varying voltages. F. P. Kalyaev, No. 2, 658, 1975.
Precision stroboscopic converter for signals with a frequency band from 0 to 200 kHz. I. M. Blyumenau and V. G. Karklin'sh, No. 1, 163, 1975.
Instrument for remote measurement of high-voltage ripple. M. V. Khashchina, M. D. Bunyaev, I. T. Venevtsev, Z. E. Ptukhina, and G. M. Skorommyi, No. 5, 1585, 1976.
Instrument for measuring the amplitude and phase difference of pulse or continuous radio-frequency signals. Yu. V. Berezin and V. A. Kiselev, No. 5, 1584, 1976.
Gain and standing-wave-ratio meter. O. V. Ryzhko, No. 2, 597, 1976.
Shch68003 electronic digital ammeter—voltmeter. O. N. Samoilenko, No. 4, 1253, 1976.
Shch68002 combined digital voltmeter. V. A. Shumkin, No. 4, 1252, 1976.
Shch68001 universal digital voltmeter. A. G. Isaev, No. 4, 1251, 1976.
Integrating digital voltmeter. A. A. Zhurin and V. G. Ovchinnikov, No. 2, 596, 1976.
Circuit for holding the zero value of an alternating voltage. Yu. F. Sul'zhenko, and A. P. Pinchuk, No. 1, 146, 1976.
Measurement of voltage across a high-current diode. V. V. Zakutin, N. N. Nasonov, and A. M. Shenderovich, No. 4, 1109, 1976.

7.2. Electronic Equipment

7.2.1. Generators

Low-frequency noise generator. Iu. M. Romanovskii, No. 4, 565, 1958.
Generator of pulse groups of millimicrosecond duration. V. V. Udalov and Yu. I. Tumin, No. 6, 921, 1959.
Finite pulse train generator. V. V. Okorokov, No. 5, 767, 1959.
A high-voltage rectangular-pulse generator. G. A. Martynov, No. 5, 840, 1959.
A generator of voltage markers. S. M. Levitskii and A. N. Golovan', No. 2, 321, 1959.
A controllable sinusoidal oscillator. Yu. N. Prozorovskii, No. 2, 327, 1959.
A high-speed time-base. Yu. N. Prozorovskii, No. 6, 991, 1960.
A device for the production of step voltage. M. N. Tsaregorodtsev, No. 1, 64, 1960.
A quartz toroid as an oscillating element for the stabilization of standard-frequency generators. A. G. Smagin, No. 2, 317, 1960.
Extension of the application range of a high-frequency oscillator type LGZ-10. V. M. Azhazha, V. S. Gumenyuk, and B. E. Popov, No. 1, 110, 1960.
A stable band generator with a nonlinear reactance. S. A. Akhamanov, Yu. E. Dyakov, A. K. Romanyuk, and M. M. Strukov, No. 5, 914, 1961.
A double-heterodyne method of generating a high-frequency signal of adjustable phase. Yu. V. Popov, No. 2, 322, 1961.
A subaudio and audio random noise generator. G. A. Andreev and L. K. Knyazeva, No. 5, 984, 1962.
Tunable standard noise generator. V. N. Lanovoi and A. V. Men', No. 6, 1159, 1962.
A high-stability transistorized crystal oscillator. E. V. Dvornikov, E. A. Mavrin, and N. V. Morkovin, No. 4, 672, 1963.
A generator of long time intervals and a precision timer. G. N. Muskhelishvili and Z. I. Bakhtadze, No. 3, 467, 1963.
An electronic master timer. E. I. Artamonov and S. N. Diligenskii, No. 6, 1084, 1963.
Phantastron circuit with high linear characteristic. V. I. Voitenko, No. 1, 161, 1963.
Improving the stability of an electronic timer. A. M. Berezin and P. M. Vaisburd, No. 2, 287, 1963.
A frequency-modulated oscillator using ferrite-filled lines. S. S. Semenov, No. 3, 607, 1964.
Generation of very slow linear sweeps. L. L. Dekabrun and Yu. N. Kil'yanov, No. 2, 336, 1964.
Sawtooth generator of period 1-3600 seconds. A. P. Pikalov, No. 5, 1056, 1964.
RC oscillator with amplitude stabilization. V. D. Averbukh, No. 1, 226, 1964.
Obtaining double output voltage from conventional decatrons. G. I. Fridman, No. 5, 1268, 1965.
A simple vertical-scanning generator for an image converter. S. I. Andreev and B. M. Sokolov, No. 3, 703, 1965.
Use of the luminous-mark method for studying processes of phase setting when synchronizing parametric oscillators. Yu. A. Yanait and E. S. Voronin, No. 2, 345, 1965.
Electronic counter system for stabilizing the frequency of high-frequency oscillators. Yu. N. Denisov, A. G. Komissarov, V. I. Prilipko, Yu. I. Susov, and P. T. Shishlyannikov, No. 3, 619, 1966.
Sweep and shutter generators for an image converter. Yu. A. Drozhbin and A. M. Tolmachev, No. 3, 693, 1966.
Transistorized step voltage generator. V. P. D'yakonov, No. 2, 358, 1966.
Relaxation generators using tubes with secondary electron emission. O. S. Kolotov, No. 6, 1484, 1966.
Transistor audio oscillators with output-voltage amplitude stabilization. A. A. Bogdanov and I. D. Ivanov, No. 3, 558, 1967.
Semiconductor high-voltage generator. A. M. Gal'per, V. V. Dmitrenko, B. I. Luchkov, and E. M. Shermanzon, No. 5, 1162, 1967.
Transistorized high-frequency oscillator with smooth variation of voltage phase. S. S. Barkalov, No. 6, 1336, 1967.
Oscillator stabilization with a frequency meter. I. M. Beskrovnyi, A. A. Skakodub, and N. D. Fedorov, No. 2, 358, 1967.
Transitron RC oscillator with electronic tuning. Z. M. Kanevskii and V. A. Kitin, No. 5, 1132, 1968.
Low-frequency sweep generator. V. D. Perevertaev and A. K. Lyubavin, No. 2, 356, 1968.

Wide-range pulse generator for operating electromagnetic shutters. V. V. Smirnov, No. 1, 132, 1968.
Controlled noise generator. A. K. Martynichev and E. M. Belov, No. 1, 130, 1968.
Videro-noise generator. É. V. Brodnikovskaya and V. M. Rozhkov, No. 5, 1130, 1968.
Stabilized diode noise generator with continuous and modulated regimes. V. N. Brezgunov and V. A. Udal'tsov, No. 6, 1385, 1968.
An exponential function generator. Yu. D. Bespyatov and S. F. Semenov, No. 1, 82, 1969.
Automatic frequency tuner attachment for GZ-14A klystron oscillator. O. T. Nikolov and L. D. Stepin, No. 1, 106, 1969.
A high-speed inductive frequency variator. I. I. Averbukh and M. M. Karliner, No. 3, 637, 1969.
Avalanche transistors in sawtooth voltage generators. V. P. D'yakonov, No. 3, 778, 1969.
Modulated high-voltage generator. P. E. Molotov, M. P. Men'shikh, and V. A. Mednikov, No. 5, 1182, 1969.
Stable staircase-voltage generator. B. S. Ishkanov, I. M. Kapitonov, I. M. Piskarev, and O. P. Shevchenko, No. 4, 899, 1969.
Crystal oscillator using field-effect transistors. A. A. Kuznetsov and V. I. Baryshev, No. 2, 468, 1970.
High-speed recirculation generator having a low relative frequency instability. K. N. Bakinovskii, I. A. Malevich, A. F. Chernyavskii, and A. K. Yakushev, No. 6, 1646, 1970.
Multiphase ultralow frequency generator with amplitude modulation. V. P. Borovskii, I. I. Vas'kovskii', B. A. Nizhegol'skii, and O. N. Partala, No. 2, 471, 1970.
Transitor staircase-voltage generator phased relative to the beginning of the triggering pulse. V. P. D'yakonov and Ch. A. Sharifov, No. 4, 1105, 1970.
Equistepped voltage generator based on avalanche transistors with smoothly regulated step amplitude. V. P. D'yakonov, No. 5, 1352, 1970.
Sawtooth voltage generator with automatically varying rise time. Yu. D. Bespyatov, V. P. Golovkov, and Yu. V. Zubritskii, No. 6, 1667, 1970.
Image-scan generators for electron-optical converters. A. S. Bryukhanov, A. I. Boriskin, V. N. Grib, N. V. Golub', and A. G. Chekanov, No. 4, 1108, 1970.
Transistorized high-voltage sawtooth generator. B. I. Goroshkov, No. 2, 466, 1970.
Low-frequency and very-low-frequency noise generator. V. A. Bondar', V. P. Bondarenko, A. K. Kondakov, and I. V. Shipunov, No. 3, 946, 1970.
Stable semiconductor oscillator producing two coherent radio frequencies. V. A. Grishkin, L. M. Pol', and V. I. Teleshevskii, No. 2, 468, 1971.
Oscillator with programmed frequency variation. V. I. Katkov, O. É. Rubin, A. M. Semiglazov, and A. P. Dolgovykh, No. 6, 1686, 1971.
Analog-digital system for tuning and stabilizing the frequency of a recirculation generator. F. M. Dmitriev, I. A. Malevich, and A. F. Chernyavskii, No. 2, 466, 1971.
Relaxation oscillator based on a semitron. Yu. B. Soltamov and V. I. Smirnov, No. 1, 153, 1971.
Transistorized high-frequency oscillator for a unipolar mass-spectrometer. L. F. Berzin, No. 5, 1399, 1971.
Infralow-frequency noise generator. G. A. Gladkikh, V. G. Panov, I. P. Pakhomov, and P. D. Chichik, No. 3, 797, 1971.
Transistorized oscillator for the meter band with electronic tuning. Yu. E. Kivokurtsov, No. 4, 1130, 1972.
Broadband calibration-voltage generator. Yu. V. Safroshkin, No. 5, 1607, 1972.
Highly stable relaxation oscillators based on avalanche transistors. V. P. D'yakonov, No. 1, 105, 1972.
Multichannel digital controllable-delay generator. V. M. Vedernikov, V. P. Kiryanov, and M. A. Koksharov, No. 3, 967, 1972.
Controllable triangular-voltage generator. O. A. Gusev and B. N. Pytlyak, No. 4, 1107, 1972.
Highly stable G-4 instrumentation oscillator. M. S. Roitman, V. R. Tsibul'skii, and V. A. Butenko, No. 1, 336, 1973.
A three-phase oscillator operating at a frequency of 100 kHz. I. V. Yurkin and V. M. Ponizovskii, No. 4, 1287, 1973.
Inductive relaxation oscillators based on avalanche transistors. V. P. D'yakonov and A. A. Sterlyagov, No. 2, 460, 1973.
Generator producing a low direct current. V. I. Karlashuk and V. A. Kotel'nikov, No. 1, 155, 1973.

Noise-voltage generator with amplitude modulation. A. I. Zakhodyakin, No. 4, 1137, 1973.
Infra-low-frequency noise generator for an instrument that measures the noise of semiconductor devices. A. G. Golovko, I. Ya. Kozyr', and V. M. Piseev, No. 4, 1139, 1973.
Controllable noise generator based on an avalanche-drift diode. A. I. Zakhodyakin, No. 1, 154, 1973.
Discrete-sweep generator using microcircuits. I. I. Zadubovskii and B. N. Krasnogolovyi, No. 3, 797, 1973.
Generator producing a staircase sawtooth sweep for a vidicon camera. V. V. Podlipenskii, V. V. Stavitskii, and V. M. Tarasov, No. 4, 1132, 1973.
Sweep generator for a double image converter. E. L. Kondrat'ev and A. A. Semenov, No. 6, 1718, 1973.
A generator for high-frequency Q-switching of a laser. G. V. Kolesov, V. B. Lebedev, V. L. Milovidov, O. V. Milyutin, and V. S. Orlov, No. 5, 1436, 1973.
Semiconductor oscillator for exciting a spectral lamp. Yu. S. Chidson, No. 4, 1135, 1973.
Transistorized high-frequency oscillator for a unipolar mass-spectrometer. V. Kh. Teslenko and N. N. Babrov, No. 1, 158, 1973.
A generator for starting acoustic chambers. V. N. Afanas'ev, O. N. Kryzhanovskii, P. I. Lebedev, V. I. Orel'chikov, and Yu. F. Tomashchuk, No. 5, 1427, 1973.
Distortion of the shape of the heterodyne voltage across the barrier layer of a semiconductor diode. K. E. Mirakov, No. 1, 137, 1973.
An audio generator with precision waveform and amplitude stabilization. B. A. Kotov and E. V. Kolla, No. 6, 1686, 1974.
Generators producing sawtooth and triangular voltages based on one-junction transistors. V. P. D'yakonov, V. D. Drozdov, and Yu. B. Leshchinskii, No. 2, 425, 1974.
A triangular waveform generator. B. A. Kotov and E. V. Kolla, No. 6, 1684, 1974.
Transistor microsecond sweep generator. V. P. Golovkov, V. I. Frolov, and S. S. Shikhmanov, No. 6, 1666, 1974.
An adjustable stepped sweep source for scanning electron microscopes and x-ray microanalyzers. G. L. Bel'kind, D. A. Novik, and M. I. Leiderman, No. 6, 1681, 1974.
A deflection-current generator for a scanning device. V. M. Tarasov, S. I. Panikovskii, and V. G. Abramov, No. 6, 1678, 1974.
A generator producing random low- and infralow-frequency signals. B. A. Verklov, S. I. Zaitsev, and Yu. A. Berezhko, No. 1, 139, 1974.
A generator producing random quantities having a stipulated distribution law. V. A. Khristyuk and B. M. Chernovoi, No. 2, 430, 1974.
An automatically tunable heterodyne for frequency-response meters. Yu. P. Kuz'min, A. A. Remesnik, and Yu. E. Genshaft, No. 1, 97, 1974.
Heterodyne block for a correlational receiver. V. G. Arkhangel'skii, P. A. Kapustin, and A. A. Petrovskii, No. 4, 1064, 1974.
A low-temperature oscillator with a frequency stability of $4 \cdot 10^{-14}$. A. G. Smagin, No. 6, 1853, 1975.
Nonthermostated quartz generators with an instability of $\sim 10^{-8}$. A. G. Smagin, No. 2, 508, 1975.
An oscillator based on a tunnel diode which is stabilized by a superconducting resonator. V. M. Pudalov, S. A. Turanov, and M. S. Khaikin, No. 5, 1508, 1975.
Quartz oscillator with automatic frequency control. A. A. Doktorov and V. A. Morozov, No. 1, 187, 1975.
Sawtooth-voltage generator. G. V. Basalaev, No. 3, 871, 1975.
An adjustable sawtooth-voltage generator. A. G. Golovko and T. D. Shermergor, No. 1, 185, 1975.
A digital-sweep generator for the PIM-3 image converter. V. I. Kovalenok, No. 5, 1431, 1975.
Oscillator with broadband electronic frequency tuning. I. M. Batyaev, No. 5, 1387, 1976.
Broadband high-frequency oscillator. M. A. Pushkina and M. E. Slutskin, No. 3, 747, 1976.
Stable-phase oscillator producing a discrete set of frequencies with high uniformity of the spectra. O. B. Sharpan, No. 5, 1385, 1976.
Oscillator producing discrete frequencies with electronic tuning. V. P. Potalui and G. M. Sidorov, No. 5, 1383, 1976.
Digital frequency synthesizer. A. G. Dovbnya, O. I. Gubernatorov, A. F. Ivachenko, A. N. Zelenin, N. K. Svergunenko, and V. N. Shinkarenko, No. 3, 927, 1976.
Low- and extra-low-frequency noise generator. E. I. Dikun, No. 2, 595, 1976.

7.2.2. Amplifiers

Amplifying stage with a high gain. A. A. Vasil'ev, No. 2, 298, 1958.
Amplifier with a logarithmic characteristic. A. N. Sus and G. V. Ratanov, No. 1, 85, 1959.
Selective low-frequency amplifier with a narrow rectangular frequency characteristic. E. V. Kuchis, No. 2, 257, 1960.
Transistorized input amplifier for a bolometer. M. N. Markov, No. 2, 325, 1961.
A highly sensitive selective amplifier. L. N. Gertsiger and I. A. Livshits, No. 5, 919, 1961.
A universal photocompensation amplifier. S. G. Rabinovich and A. N. Tkachenko, No. 4, 717, 1961.
An amplifier-attenuator. I. A. Mishustin, No. 2, 317, 1962.
A galvanomagnetic direct-current amplifier. N. I. Ovcharenko, No. 3, 518, 1962.
A cathode follower voltage amplifier. M. A. Elenskii, No. 4, 675, 1963.
A direct-current measuring amplifier. V. S. Verkhovtsev, V. Yu. Vorobkevich, M. A. Rakov, and L. A. Sinitskii, No. 3, 460, 1963.
A high-sensitivity dc amplifier with a superconducting modulator. V. N. Kachinskii, No. 5, 979, 1963.
A selective weak-signal amplifier. A. P. Teplova, No. 2, 348, 1964.
The parameter stability of a selective low-frequency amplifier. E. V. Kuchis, No. 2, 343, 1964.
High-impedance input stage for amplification of symmetrical ultralow frequency signals. A. I. Belichenko and L. Ya. Mizyuk, No. 3, 576, 1964.
A stable transistor amplifier. M. Z. Chapovskii, No. 2, 351, 1964.
A differential amplifier for the measurement of small transmission-line losses. V. I. Shvetsova, No. 2, 354, 1964.
Automatic tube gain stabilization against cathode emission variations. I. A. Mishustin, No. 1, 222, 1964.
Wide-band dc amplifier with small zero-point drift. V. S. Voronin and S. S. Semenov, No. 5, 1135, 1965.
Semiconductor dc amplifier. E. R. Petrov, No. 3, 585, 1965.
A photovaricap photocurrent amplifier. L. S. Berman, No. 3, 717, 1965.
Noninverting transistor amplifier. I. N. Migulin and M. Z. Chapovskii, No. 5, 1173, 1966.
Five-channel recording amplifier. S. G. Rabinovich, A. N. Tkachenko, V. B. Usmanov, and B. A. Yatmanov, No. 2, 478, 1966.
The possibility of using electron multiplier tubes as radio-frequency amplifiers. M. Yu. Gel'tsel', V. S.Panasyuk, A. F. Serov, and L. I. Yudin, No. 1, 140, 1966.
Operation of secondary-emission tubes in the linear-gain condition. V. M. Rozhkov, No. 6, 1482, 1966.
Correcting stage for photoresistors. P. F. Oleksenko and S. V. Svechnikov, No. 5, 1223, 1966.
Cathode follower with input capacitance neutralization. O. D. Tereshkov, No. 1, 207, 1966.
Low-noise fast-rise-time preamplifier. V. G. Brovchenko and Yu. D. Molchanov, No. 3, 648, 1966.
Stable, low-frequency selective amplifier. E. V. Kuchis, No. 5, 1165, 1966.
Simple transistor amplifier with stray pickup suppression. M. Z. Chapovskii, No. 2, 439, 1967.
Direct-current voltage amplifier for measuring the Hall effect in high-resistance specimens. A. P. Sakalas, No. 6, 1338, 1967.
Complementary transistor dc amplifier stage. V. L. Zmudikov, No. 2, 414, 1967.
Radio-frequency synchronous detector using transistors. L. N. Novikov, No. 6, 1430, 1967.
Low-frequency parametric amplifier. A. S. Ignatenko, G. E. Novikov, and Yu. G. Belashov, No. 2, 360, 1968.
High-voltage transistor paraphase amplifier. S. R. Ivanov and N. V. Novikova, No. 3, 614, 1968.
Transistorized measuring amplifier. V. A. Linin', No. 1, 113, 1968.
Photoelectric amplifier using transistors. Ya. G. Ponomarev, No. 1, 117, 1968.
Logarithmic signal conversion with transistors. Yu. V. Mineev and L. S. Aleksandrov, No. 3, 606, 1968.
Low-noise preamplifier tube. V. G. Brovchenko and Yu. D. Molchanov, No. 1, 119, 1968.
Dc amplifier for a cathode-ray beam. V.A. Tsar'kov, B. A. Levinson, V. A. Pavlenko, and N. N. Voronin, No. 5, 1189, 1969.

Some defects in the charge detector amplifier circuit. V. F. Lyutenko, No. 4, 896, 1968.
Measurement of weak low-frequency signals. Yu. A. Blyumkina and Yu. G. Nikolaev, No. 5, 1204, 1969.
Broadband synchronous detector. N. S. Babenko and A. N. Sudarkin, No. 3, 686, 1969.
Low-noise amplifier for 410 MHz. P. A. Kapustin and A. A. Petrovskii, No. 5, 1202, 1969.
Transistorized IF amplifier for radiospectroscopy. V. A. Milyaev and A. V. Shirkov, No. 1, 94, 1969.
Current principle of designing a distributed transistor amplifier. A. D. Smul'skii, No. 3, 681, 1969.
Amplifier with distributed gain in the meter band. A. A. Kuz'min, G. I. Stolyarev, V. M. Vinokurov, A. A. Goryatnin, R. I. Rusanova, V. I. Korneyev, B. F. Golev, V. F. Brodyuk, No. 4, 1086, 1969.
Two-channel amplifier for a radiometer with zero intermediate frequency. P. A. Kapustin and A. A. Petrovskii, No. 5, 1199, 1969.
High-sensitivity cascade preamplifier for infrared radiation receivers. V. P. Korotkov, No. 4, 922, 1969.
Input units for pyro radiation receivers. L. S. Kremenchugskii, A. F. Mal'nev, V. B. Somoilov, V. M. Stolyarov, and A. Ya. Shul'ga, No. 2, 389, 1969.
Amplifying equipment for operation with a superconducting bolometer. I. A. Khrebtov, No. 2, 370, 1969.
Transistor amplifier for measuring weak dc currents. M. A. Hasan and F. A. Grinevich, No. 3, 684, 1969.
Low-current logarithmic amplifier. L. A. Vsevolozhskii, A. M. Ilyukovich, and I. P. Mikhailova, No. 1, 89, 1969.
Amplifier with logarithmic amplitude response. P. P. Yushkov, No. 6, 1499, 1969.
Low-noise preamplifier with an input cathode follower. V. G. Brovchenko, A. E. Voronkov, S. F. Kozlov, and P. A. Kuznetsov, No. 6, 1673, 1970.
Low-noise preamplifier employing field-effect transistors. A. A. Mitin and G. N. Sofiev, No. 4, 1039, 1970.
Low-noise charge-sensitive preamplifier employing field effect transistors. V. N. Pod'yachev and R. M. Shatunovskii, No. 4, 1042, 1970.
Low-noise transistor amplifier. A. A. Gorbatov, A. A. Samsonov, L. V. Velikov, and E. G. Rudashevskii, No. 2, 464, 1970.
Fast transistor dc amplifier. I. V. Galkin and N. F. Gusev, No. 4, 1099, 1970.
Logarithmic amplifier for small currents. Yu. N. Nikolaev and M. N. Titov, No. 6, 1678, 1970.
Heat-stable transistorized amplifier with high input impedance. R. M. Mirsalimov and T. A. Gasanov, No. 6, 1814, 1970.
Selective transistor RC-amplifier for infrasonic frequencies. V. V. Maslennikov, No. 1, 149, 1970.
Noise of low-frequency balanced parametric amplifier. V. M. Zhestovskii, No. 3, 808, 1970.
Selective transistorized amplifiers for the 0.1-100 kHz frequency range. M. V. Komar and V. E. Yamnyi, No. 1, 140, 1971.
Transistorized selective RC-amplifiers with tuning of the resonant frequency. V. V. Maslenikov and V. A. Merkulova, No. 1, 142, 1971.
Instrumentation amplifier. A. I. Vorozheikin, I. R. Dobrovinskii, E. A. Lomtev, and V. M. Shlyandin, No. 4, 1067, 1971.
Magnetic parametric amplifier for infralow frequencies which is based on a thin magnetic film. N. N. Kurdyumov and V. V. Potemkin, No. 2, 513, 1971.
Preamplifier based on a field-effect transistor in the SRS-1-0 scintillation x-ray counter. G. M. Murashko and N. V. Nikonenkov, No. 5, 1580, 1971.
Obtaining the limiting resolving powers of low-noise preamplifiers based on field-effect transistors at 25°C. N. Ya. Sedov, No. 4, 1069, 1971.
Use of field-effect transistors in spectrometric amplifiers. V. S. Ponomarev and A. N. Zhukovskii, No. 3, 781, 1971.
Low-noise preamplifier for Ge(Li) radiation detectors. Yu. G. Panitkin, No. 1, 146, 1971.
Amplifier and discriminator for operation with proportional slow-neutron counters. B. A. Kotov and V. I. Pogrebnoi, No. 3, 779, 1971.
Amplifier for precise spectrometry under large loads. R. G. Ofengenden and A. A. Ostapenko, No. 2, 459, 1971.
A low-noise amplifier having distributed parameters. A. A. Kuz'min and V. N. Grishko, No. 1, 327, 1971.

Low-noise amplifier with distributed parameters which is based on titanium-ceramic tubes. R. I. Rusanova and A. A. Kuz'min, No. 2, 658, 1971.

Synchronous detector which is a modification of the SD-1. M. T. Kostyshin, M. A. Ruban, and A. G. Shutov, No. 2, 599, 1972.

Measurement amplifier for microvolt infra-low-frequency signals. Yu. G. Basin, Yu. A. Grits, and V. I. Isachenko, No. 2, 597, 1972.

Instrumentation amplifier with modulation of the input signal. A. I. Vorozheikin, I. R. Dobrovinskii, and E. A. Lomtev, No. 6, 1777, 1972.

Utilization of a piezosemiconductor transducer in the input circuits of dc amplifiers. R. G. Dghagupov and T. A. Melik-Shakhnazarova, No. 2, 426, 1972.

Dc amplifiers for the microampere and nanoampere range. L. S. Gorn, L. S. Zhurina, and B. I. Khazanov, No. 2, 423, 1972.

Transistor dc amplifier with a high input resistance. A. P. Budennyi and M. V. Vladimirskii, No. 1, 134, 1972.

Transistorized logarithmic-response amplifier. V. T. Polyakov, No. 1, 132, 1972.

Dc amplifier for measuring electric fields in a plasma. V. Yu. Vorobkevich, V. S. Maslov, and V. P. Solomchak, No. 1, 295, 1972.

Selective amplifier. A. P. Kulinich and Yu. N. Zhokov, No. 1, 298, 1972.

Preamplifiers for signals from semiconductor detectors based on field-effect transistors. Yu. A. Golubev, É. E. Pakhomov, and O. P. Polytsya, No. 3, 763, 1972.

Thermally stable electromagnetic-sweep current amplifier. I. F. Bursov, I. I. Zadubovskii, and B. N. Krasnogolovyi, No. 6, 1779, 1972.

Receiving-recording device for high-ohm photoreceivers. E. A. Vinogradov and B. D. Kopylovskii, No. 5, 1420, 1972.

A synchronous detector for a low-ohm load. A. E. Kovalev, A. A. Buznikov, S. F. Glagolev, and A. M. Kel'man, No. 5, 1479, 1973.

A dc amplifier. A. P. Kulinich and V. P. Alekseev, No. 6, 1856, 1973.

A thermally durable preamplifier. I. N. Poznyak, A. V. Linnik, V. M. Kosenko, and A. F. Ripka, No. 3, 837, 1973.

Elements of the input stage of low-noise preamplifiers. N. Ya. Sedov and Yu. S. Blinnikov, No. 2, 472, 1973.

Light feedback in a low-noise preamplifier. V. A. Tret'yakov and L. A. Popeko, No. 2, 476, 1973.

A selective amplifier with an attenuation pole. S. F. Glagolev, A. A. Buznikov, and A. E. Kovalev, No. 5, 1472, 1973.

Selective amplifier with a synchronous integrator. A. V. Ipatov and A. B. Berlin, No. 1, 134, 1973.

Logarithmic amplifier with ac—dc input voltage conversion. S. K. Malyshev, V. V. Khrulev, S. P. Chekalev, and S. A. Shmulevich, No. 6, 1696, 1974.

A logarithmic amplifier. V. P. Golovkov, Yu. V. Zubritskii, and S. S. Shikhmanov, No. 3, 767, 1974.

A low-noise transistorized distributed amplifier with a wide dynamic range. A. A. Kuz'min, V. Ya. Gyunter, B. F. Golev, A. I. Brunev, A. I. Silyutin, A. V. Serebryakov, V. Z. Nilov, and V. N. Grishko, No. 2, 627, 1974.

A transistorized distributed amplifier with a wide dynamic range. A. I. Brunev, A. I. Silyutin, A. V. Serebryakov, A. A. Kuz'min, V. Ya. Gyunter, B. F. Golev, V. Z. Nilov, and V. N. Grishko, No. 2, 627, 1974.

A stable voltage repeater with MOST input. A. A. Bystrov and V. G. Vorzhev, No. 6, 1702, 1974.

A stable source follower. V. M. Musonov, No. 2, 453, 1974.

The "Klest" amplifier expander in a spectrometer for soft x-radiation. N. V. Nikonenkov and V. N. Smirnov, No. 4, 1213, 1974.

External preamplifier for piezoelectric measurement transducers. V. N. Pavlov, No. 4, 1083, 1974.

The IP-2M infralow-frequency amplifier. B. I. Blazhkevich, I. S. Danilyuk, S. I. Klimov, V. I. Koval'chuk, V. E. Korepanov, V. A. Lukin, and V. A. Pogribnoi, No. 1, 302, 1974.

Differential amplifiers with low drift. V. I. Anisimov, M. V. Kapitonov, N. N. Prokopenko, and Yu. M. Sokolov, No. 2, 447, 1974.

A self-oscillatory dc amplifier with frequency control. V. A. Gonostarev and A. M. Kunitsa, No. 3, 765, 1974.

A paraphase sweep-voltage amplifier for the LI-602 dissector. G. D. Bogomolov and V. I. Voronin, No. 4, 1085, 1974.
A transistorized synchronous detector. É. M. Antonov, No. 1, 171, 1975.
High-voltage dc amplifier with bipolar output. P. E. Molotov and V. G. Belozerov, No. 4, 1180, 1975.
A four-channel low-noise measurement amplifier. A. V. Blokhin, Yu. I. Rebrin, V. A. Romanov, M. I. Kolodin, V. P. Shabashov, and A. F. Gorbuntsov, No. 2, 658, 1975.
The USD-1 amplifier with a synchronous detector. B. G. Ignatov, L. Z. Pososhenko, A. L. Aleksandrov, A. Ya. Smirnov, and S. N. Chumakov, No. 4, 1314, 1975.
Selective amplifier for measurement of Hall emf. A. G. Volchenko and E. L. Kassatsier, No. 5, 1479, 1975.
A bandpass infra-low-frequency RC-amplifier. V. É. Isaikin and V. V. Maslennikov, No. 5, 1476, 1975.
An amplifier for a potentiostat. M. L. Gol'dshtein, S. L. Gol'dshtein, and S. P. Raspopin, No. 6, 1849, 1975.
A phase-shift amplifier. V. S. Suzdal' and V. I. Kostenok, No. 5, 1646, 1975.
Phase-stable harmonic-signal amplifier-limiter. A. M. Fishtein, No. 3, 856, 1975.
A preamplifier for the readout signal of a memory cathode-ray tube. V. G. Grishin and V. F. Starodubtsev, No. 4, 1136, 1975.
Remotely located preamplifiers. G. P. Petrin, No. 1, 154, 1975.
Charge-sensing preamplifier for semiconductor nuclear detectors and high-capacitance photoreceivers. V. F. Levchenko and A. I. Repin, No. 5, 1470, 1975.
A low-noise preamplifier for semiconductor detectors with optoelectronic feedback. Hoang Dak Lyk, No. 2, 491, 1975.
Noise of load resistors in preamplifiers for semiconductor detectors. S. A. Baldin, I. A. Bairamashvili, and S. F. Gubin, No. 2, 493, 1975.
X-ray and soft gamma radiation spectrometer preamplifier with drain feedback. G. K. Khomyakov, N. V. Serykh, A. G. Strashinskii, and N. A. Skakun, No. 2, 496, 1975.
Synchronous detector with an operational amplifier. N. B. Golyuka, V. M. Zasimenko, and N. G. Koval'chuk, No. 2, 500, 1975.
Stable-phase automatic gain control using field-effect transistors. I. P. Ryabokon', V. A. Goizhevskii, and N. P. Dolzhenko, No. 5, 1482, 1975.
Circuit for stabilizing the gain of a stage containing a photoelectron multiplier. Sh. R. Gizatullin and B. I. Kapranov, No. 4, 1138, 1975.
Application of delayed feedback in an amplifier for an acoustic sensor. S. V. Blazhevich and G. L. Fursov, No. 5, 1473, 1975.
High-speed high-voltage dc amplifier with conversion. M. B. Leitman and V. V. Kruglov, No. 6, 1679, 1976.
A high-voltage dc amplifier. V. V. Kruglov, No. 2, 440, 1976.
A high-voltage dc amplifier stage. M. B. Leitman and V. V. Kruglov, No. 2, 443, 1976.
Direct-current pulse amplifier with increased interference immunity. G. V. Suvorov and L. I. Tsytovich, No. 5, 1412, 1976.
Direct-current amplifier with frequency-pulse-width modulation. V. A. Klynin, No. 5, 1415, 1976.
Selective limiter—amplifier with high phase-amplitude stability. A. M. Fishtein, No. 6, 1688, 1976.
Intermediate-frequency amplifier with fast recovery. S. M. Cheremisin, No. 3, 735, 1976.
Operational amplifier. V. G. Brovchenko and V. V. Shafirkin, No. 6, 1683, 1976.
An amplifier with neutralization of the input capacitance. A. É. Érglis and U. V. Yanson, No. 1, 155, 1976.
Transistor amplifiers with increased collector voltage. V. G. Brovchenko and V. V. Shafirkin, No. 5, 1408, 1976.
Transistorized audio-frequency amplifier with compensation of intrinsic noise. G. E. Leont'ev and V. P. Palenskis, No. 3, 740, 1976.
Amplifier having a wide range of variation of input-signal amplitude. V. A. Orlov, No. 3, 736, 1976.
A linear thyristor amplifier with a low level of commutation interference. V. I. Zametin, No. 2, 446, 1976.
A linear thyrsistor amplifier for temperature controllers. V. I. Zametin, No. 2, 451, 1976.
A linear amplifier based on a thyristor optron. G. V. Zusman and S. S. Ustinov, No. 2, 455, 1976.

Preamplifier for an x-ray spectrometer. N. Ya. Sedov, No. 2, 457, 1976.
Amplifier for a stellar electrophotometer. Yu. K. Kolpakov and A. K. Magnitskii, No. 4, 1116, 1976.
Amplifier—discriminator for magnetostriction spark chambers. E. A. Silaev, No. 5, 1402, 1976.
Computing amplifier that calculates the logarithm of a ratio. N. D. Tret'yakov, No. 6, 1686, 1976.
Source follower having a wide dynamic range. V. A. Shul'gin, No. 3, 743, 1976.
Input stage of phase-stable amplifier with automatic gain control. A. M. Fishtein, No. 6, 1691, 1976.
Switch-type automatic gain control. A. Yu. Shchekotov, No. 5, 1418, 1976.
Effect of low temperature on the noise parameters of channel transistors. N. I. Ivanov and K. B. Lobanov, No. 3, 742, 1976.
Protection devices for high-power transistorized radio-frequency amplifiers. V. P. Nuyanzin and G. V. Litvinov, No. 6, 1681, 1976.

7.2.3. Wideband and Pulse Amplifiers

Broadband and pulse transistor amplifiers in the nanosecond range (survey). I. A. Dubrovskii, No. 2, 259, 1966.
A circuit for protection against electrical interference. V. G. Brovchenko and V. M. Morozov, No. 2, 325, 1959.
A wideband amplifier for standard oscillographs. Yu. N. Prozorovskii, No. 2, 322, 1959.
High-stability nonoverloading amplifier. A. A. Sanin, Chang Wan-chu, and Chu Chiang-shih, No. 2, 260, 1960.
A nonoverloading amplifier with an improved pulse-time rise. A. N. Pisarevskii and Yu. E. Selyaninov, No. 1, 69, 1960.
A wide band transistor preamplifier. O. M. Bezmenov, O. V. Lebedev, and V. P. Shamov, No. 6, 913, 1960.
Transistorized broadband amplifier. B. A. Zelenov, No. 5, 998, 1961.
Amplification of short pulses with pulse powering of the amplifier tubes. O. S. Kolotov and Yu. N. Lobanov, No. 2, 303, 1961.
A wideband pulse amplifier. B. A. Predein, V. M. Gorbachev, G. N. Sem'in, M. I. Filimonchev, and V. A. Shevtsov, No. 3, 497, 1962.
On a video amplifier for exponential pulses which have a maximum signal-to-noise ratio. B. A. Ermakov and L. D. Khazov, No. 5, 981, 1962.
A high-stability amplifier with distributed constants. A. M. Gasanov, No. 4, 779, 1963.
Precision pulse amplifier units. V. S. Vlasov, A. S. Eremin, and B. S. Rozov, No. 1, 102, 1964.
Logarithmic pulse amplifier. I. V. Malyshev, Yu. B. Popov, and B. S. Rozov, No. 1, 111, 1965.
Pulse amplifier using a tunnel diode. A. A. Shternov, No. 3, 602, 1965.
Stable pulse amplifier. G. D. Alkhazov and A. A. Vorob'ev, No. 1, 126, 1966.
Wideband transistor amplifier. Yu. N. Prozorovskii and V. A. Binevich, No. 3, 678, 1967.
Distributed gain amplifier using tunnel diodes. D. A. Kabanov, No. 2, 361, 1967.
High-frequency correction in nonlinear amplifier circuits using vacuum tubes with secondary electron emission. O. S. Kolotov, No. 2, 441, 1967.
Transistor nanosecond-pulse amplifier. A. M. Siz'min, No. 4, 810, 1967.
Broadband power amplifier. L. N. Kazanskii, No. 3, 610, 1968.
Transistor nanosecond video amplifier with mutual correction. A. D. Smul'skii, No. 3, 739, 1968.
A broadband pulse power amplifier. V. D. Dvornikov, S. T. Latushkin, and L. I. Yudin, No. 2, 373, 1969.
Transistorized wideband nanosecond-pulse amplifier. K. M. Lekishvili, A. A. Dzidziguri, O. L. Khazaradze, G. S. Gedevanishvili, Yu. S. Andreevskii, and V. P. Peregudov, No. 2, 458, 1970.
Minimizing gain instability in linear pulse amplifiers. A. M. Mitin, No. 4, 1236, 1970.
Amplifier for semiconductor gamma detectors. O. K. Zhuravlev, V. F. Leonov, and A. V. Somikov, No. 2, 460, 1970.
Fast current preamplifier for operation in an electronic neutron collimation system. E. A. Andreev, S. P. Sit'ko, and V. A. Shevchenko, No. 1, 147, 1970.

Fast linear amplifier. M. N. Drazhev and A. I. Ivanenko, No. 6, 1671, 1970.
Amplifier having a bandwidth of 0.8 GHz. V. I. Pil'skii, No. 3, 812, 1971.
Broadband power amplifiers based on meter-band transistors. V. N. Galashenkov, A. A. Golovkov, and A. B. Kraichik, No. 6, 1698, 1971.
Transistor microwave amplifier having a passband of 1 to 1000 MHz. V. I. Zhavoronkov, L. N. Izgagin, and N. Z. Shvarts, No. 3, 768, 1972.
Broadband high-frequency power amplifier. G. B. Zhegalov, O. F. Pavlenko, and V. V. Polevoi, No. 6, 1774, 1972.
Broadband paraphase amplifier. A. A. Lysenko and A. I. Petrova, No. 4, 1136, 1972.
A broadband low-noise preamplifier. V. P. Golovkov, V. V. Gorbatyuk, Yu. V. Zubritskii, and A. I. Makarov, No. 5, 1470, 1973.
A nanosecond pulse amplifier with an increased output voltage. A. N. Kolesov, A. N. D'yachko, and L. P. Donskikh, No. 3, 979, 1973.
A broadband oscilloscopic amplifier for the nanosecond range. A. A. Lysenko and B. N. Gurvich, No. 4, 1173, 1973.
A pulse amplifier with discrete automatic gain control. V. D. Dvornikov, V. M. Komarov, and L. I. Yudin, No. 5, 1467, 1973.
A transistorized broadband amplifier with deep negative feedback. V. M. Gutkin, L. F. Ryabkov, and V. N. Serov, No. 6, 1724, 1973.
A broadband transistor power amplifier for the meter range. G. N. Devyatkov and L. G. Plavskii, No. 4, 1176, 1973.
A transistorized distributed amplifier with an increased output voltage for the 0.1-700-MHz range. V. Ya. Gyunter, V. A. Sutorikhin, B. F. Golev, V. N. Grishko, A. I. Silyutin, A. A. Kuz'min, and Yu. N. Lobanov, No. 4, 1237, 1974.
Ultrawideband variable-gain amplifier. V. D. Obikhvastov, V. N. Il'yushenko, and B. I. Avdochenko, No. 1, 317, 1975.
A wideband transistor amplifier of nanosecond pulses. M. V. Ten, Z. V. Magrachev, and V. Ya. Gyunter, No. 6, 1690, 1974.
Broadband preamplifier for bolometers with high internal impedances. N. P. Ponomarenko and V. M. Zalkind, No. 6, 1694, 1974.
A stable pulse amplifier with a large dynamic range of the input signals. F. G. Cherkasov, A. M. Sokol'vyak, and B. A. Gusev, No. 5, 1354, 1974.
A pulse amplifier that is stable relative to overloads. I. M. Pribylovskii, A. L. Podmoshenskii, A. I. Efremov, and V. S. Petrov, No. 5, 1356, 1974.
Distributed-gain amplifier with a low noise factor. A. I. Brunev, V. A. Sutorikhin, B. F. Golev, A. V. Serebryakov, A. A. Kuz'min, V. F. Poushev, and V. V. Sergeichev, No. 4, 1318, 1975.
A broadband amplifier with automatic gain setting. M. V. Brunov, V. P. Golovkov, V. V. Gorbatyuk, A. A. Greshilov, and A. I. Makarov, No. 6, 1826, 1975.
Wideband amplifier for high-speed oscilloscope. L. N. Kashcheev and L. M. Pakhomov, No. 1, 152, 1975.
A wideband amplifier with negative feedback. V. D. Obikhvostov, No. 2, 657, 1975.
A broadband transistor main amplifier. A. V. Serebryakov, B. V. Golev, A. I. Brunev, A. A. Kuz'min, V. Ya. Gyunter, and A. I. Silyutin, No. 4, 1318, 1975.
A broadband ultra-short-wave transistorized amplifier. V. S. Mikhailov and I. S. Shemetov, No. 6, 1818, 1975.
Broadband transistorized power amplifiers for the meter range. V. I. Govorukhin, B. I. Ivlev, and D. Khusainov, No. 6, 1822, 1975.
A pulse amplifier with a controllable gain. D. A. Abdullaev and Yu. D. Gavrilenko, No. 2, 485, 1975.
High-voltage transistor nanosecond amplifier. A. N. D'yachko, L. G. Boltovskaya, and A. A. Titov, No. 5, 1584, 1976.
Broadband linear amplifier. S. G. Basiladze and Li Wan Sun, No. 5, 1396, 1976.
Broadband sum—difference amplifier. S. E. Sebko and Yu. N. Seryakov, No. 3, 738, 1976.
A universal spectrometric preamplifier. N. Ya. Sedov, No. 1, 153, 1976.
Pulse amplifier based on ESL integrated elements. E. D. Baran, A. P. Tikhobaev, and A. A. Chaika, No. 5, 1399, 1976.
Broadband amplifier for measuring propagation velocity of ultrasonic vibrations in solids. V. A. Chizhikov and V. M. Musonov, No. 5, 1406, 1976.
Broadband transistor amplifiers for the decimeter range. M. N. Davidovich and V. K. Il'in, No. 4, 1115, 1976.

Broadband microwave power amplifier. D. S. Gol'dman, N. V. Storozhenko, B. K. Tsygankov, and V. F. Kubyshta, No. 4, 1113, 1976.

7.2.4. Electrometer Amplifiers and Electrometers

Electrometer amplifiers (review). L. B. Ustinova, No. 4, 627, 1961.
Semiconductor electrometric amplifiers (review). A. K. Osipov, No. 1, 1, 1971.
A recording electrometer based on the ÉPP-09 electronic potentiometer. I. S. Abramson and L. P. Malyavkin, No. 1, 102, 1960.
A dc amplifier for measuring currents in the range 10^{-6} to 10^{-12} amperes. V. A. Reében, No. 1, 122, 1962.
Compact electrometer using subminiature tubes. V. A. Kurilov, No. 3, 520, 1962.
Recording electrometer for investigation of induced electromotive forces. Yu. I. Plotnikov and A. A. Gorbatov, No. 1, 87, 1963.
A 10^{-14} A current integrator using the S-95 electrostatic voltmeter. V. V. Yakushin, No. 3, 474, 1963.
An electrometer amplifier. B. I. Zarkhin, M. A. Pushkina, and M. E. Slutskii, No. 4, 678, 1963.
Methods of reducing the input-circuit time constant of vacuum-tube electrometers. A. V. Parshin, N. N. Romanova, and L. B. Ustinova, No. 3, 580, 1964.
Internal noise in wideband electrometer amplifiers. N. N. Romanova, A. V. Parshin, and L. B. Ustinova, No. 3, 586, 1964.
An electron paramagnetic resonance spectrometer operating in the 8 mm band. V. A. Zakrevskii and É. E. Tomashevskii, No. 4, 821, 1964.
An electrometer amplifier. M. E. Slutskii, No. 5, 1140, 1965.
An electrometer with a tandel. I. Novak, No. 2, 362, 1965.
Compact fast-response electrometer amplifier. N. A. Danilova, A. V. Parshin, and L. B. Ustinova, No. 1, 109, 1967.
Electrometric network with compensation of the input capacitance. T. A. Adzhimolaev and O. B. Dem'yanovskii, No. 6, 1382, 1968.
Wideband semiconductor electrometer amplifier. A. V. Parshin, No. 6, 1490, 1969.
Dc electrometer amplifiers for mass spectrometers. B. B. Leporskii, Yu. N. Zalesov, and V. I. Makarov, No. 1, 92, 1969.
Electrometric amplifier. V. B. Vershevskii, M. V. Zherdin, M. A. Pushkina, and M. E. Slutskii, No. 1, 151, 1970.
Electrometer amplifier with a surface voltage-operated variable capacitor. A. V. Zharkov, S. S. Pavlov, Ya. S. Pogulyaevskii, and V. P. Frolov, No. 6, 1681, 1970.
Vacuum-tube electrometer with compensation of stray current. V. I. Karlashchuk, No. 6, 1684, 1970.
P2-Z electrometric integrator. V. A. Kurilov and V. V. Apinyan, No. 4, 1073, 1971.
Method of indirect measurement of electrometric parameters of amplifiers having a null-self-stabilization channel. V. V. Meer and P. V. Karmanov, No. 6, 1721, 1971.
Electrometric amplifiers for induction measurement of charges. L. M. Logvinov, A. A. Podolskii, A. F. Voronov, and L. I. Kalakutskii, No. 5, 1417, 1972.
An electrometer amplifier based on a field-effect transistor and an integrated microcircuit. L. F. Berzin, No. 5, 1474, 1973.
Electrometric amplifier for investigating photoconductivity. N. N. Korotaev and A. N. Zykin, No. 1, 335, 1973.
The IP-1 three-channel electrometric amplifier. B. I. Blazhkevich, V. Yu. Vorobkevich, O. L. Vaisberg, S. I. Klimov, V. E. Korepanov, and I. V. Rozhankovskii, No. 4, 1290, 1973.
A digital teraohmmeter-electrometer. V. I. Karlashchuk and V. I. Kupryakhin, No. 3, 832, 1973.
A differential self-compensating electrometer. A. A. Gayanov, No. 6, 1739, 1973.
Logarithmic circuit with a digital output for measurements of a charge $\geq 10^{-14}$ C and for determination of its sign. V. D. Butenko, Yu. P. Gordeev, V. V. Mel'nikov, B. I. Savin, and B. M. Yakovlev, No. 5, 1385, 1974.
A high-sensitivity integrating electrometer. V. I. Karlashchuk, No. 6, 1700, 1974.
Method of controlling the speed of response of an electrometric amplifier. R. E. Prilutskii, No. 2, 450, 1974.
An electrometer amplifier having a wide dynamic range. L. F. Berzin, No. 4, 1141, 1975.

An electrometer with a dynamic capacitor. V. I. Karlashchuk, No. 4, 1143, 1975.
Direct-coupled electrometer amplifier with an MOS transistor. O. T. Gritsenko, I. Ya. Levental', and R. A. Arslanov, No. 2, 498, 1975.
Sensitive electrometer amplifier employing MOS transistors. L. N. Ozerov, M. A. Pushkina, and M. E. Slutskii, No. 1, 157, 1975.
Semiconductor electrometer amplifier with thermal drift compensation. A. V. Parshin, No. 1, 160, 1975.
A compact electrometric amplifier. M. A. Shamrilo, V. S. Pekurov, V. P. Mel'nikov, A. V. Shvyndikov, and L. M. Kormilitsyn, No. 6, 1988, 1975.
An electrometer with increased accuracy. V. I. Cherednichenko, No. 5, 1467, 1975.
Stable electrometric preamplifier. G. V. Basalaev and I. A. Yatsun, No. 3, 744, 1976.

7.2.5. Filters

Selective RC-circuits. (Review). V. V. Maslennikov, V. A. Isaikin, and V. P. Tarasov, No. 1, 1, 1974.
Active infralow-frequency RC-filter. F. V. Kiyanovskii, No. 5, 1392, 1971.
Selective RC-filter based on MOS transistors having direct coupling. I. A. Belozerov, No. 5, 1394, 1971.
Stable heterodyne filter. M. S. Kozlov, V. I. Sazanov, and N. P. Cheragin, No. 3, 770, 1972.
Active filter with electronic tuning. E. I. Koflevskii, A. I. Kalyakin, and A. D. Tytar', No. 2, 615, 1972.
A functional attenuator with digital control. G. N. Solov'ev and V. N. Erykalov, No. 6, 1729, 1973.
A tunable active RC-filter based on integrated microcircuits. A. G. Golovko and I. Ya. Kozyr', No. 4, 1162, 1973.
A filter with electronic control of a quasiresonant frequency. Yu. I. Lypar' and A. S. Filippov, No. 4, 1164, 1973.
A selected RC-filter based on an operational amplifier with direct coupling. A. F. Gorbatenko and A. M. Klimenko, No. 2, 455, 1974.
Design freatures of broad-band transformers with ferrite cores. V. M. Stechenko, No. 2, 511, 1975.
A tunable active low-pass filter. A. M. Klimenko, No. 4, 1162, 1975.
A band RC-filter using a Schmitt trigger. E. P. Maksimchuk and N. M. Dvoinin, No. 3, 858, 1975.
A band RC-filter. V. A. Isaikin, No. 3, 860, 1975.
Tunable active high-pass RC-filter. A. F. Gorbatenko and A. M. Klimenko, No. 1, 169, 1975.
An active RC-filter based on an integrated microcircuit. M. Sh. Guseinov, M. I. Ragimov, and Yu. M. Kafarov, No. 4, 1160, 1975.
A tunable active RC-filter. E. I. Kuflevskii, A. I. Kalyakin, V. D. Gura, V. P. Tepin, and S. F. Bondar', No. 1, 304, 1976.

7.2.6. Spectrum Analyzers

Audio-frequency spectrum analyzer. G. V. Voishvillo and V. S. Davydov, No. 6, 796, 1958.
Highly sensitive spectral analyzer of low-frequency electrical noise. A. N. Malakhov, No. 1, 86, 1958.
Oscillographic method of determining the distribution law of random quantities. I. G. Akopyan, No. 1, 141, 1959.
A photographic method of investigating random processes. B. B. Bukhovtsev and V. I. Shmal'gauzen, No. 4, 665, 1959.
Instrument for measuring one-dimensional differential and integral distribution laws of random quantities. V. V. Chilikin, No. 3, 413, 1959.
A device for measuring spectra and correlation functions of low-frequency processes. V. A. Zverev and E. F. Orlov, No. 1, 54, 1960.
An "IDK" instrument for measuring statistical characteristics of random voltages. M. S. Aleksandrov, No. 4, 599, 1960.
A spectral analyzer with an electronic functional converter. M. G. Serbulenko and V. M. Matoshin, No. 3, 442, 1960.
A spectroanalyzer for variable-frequency signals. Ya. I. Likhter, S. M. Prozumenshchikov, and Ya. P. Sobolev, No. 1, 96, 1961.

Calibration procedures in using the photographic method for analyzing random processes. L. B. Venchkovskii, No. 1, 143, 1961.

Frequency spectrum analyzer for studying the cyclotron radiation of hydrogen ions. A. N. Karkhov, No. 5, 936, 1961.

A spectral analyzer for recording processes. V. A. Zverev, I. V. Mosalov, E. F. Orlov, and V. L. Siviryakov, No. 1, 110, 1962.

Some problems of the automation of apparatus for spectral analysis. N. F. Vollerner and V. G. Kriksunov, No. 1, 118, 1962.

An analyzer of probability density of irregular phase differences. A. A. Fersman and A. A. Krivetskii, No. 3, 572, 1964.

Photoelectric measurement of the probability distributions of subsonic processes. G. A. Andreev, V. A. Zverev, and A. K. Chandaev, No. 2, 341, 1965.

Oscilloscope system for recording distribution laws for random quantities. V. A. Vanke, No. 2, 476, 1966.

Characteristic-function analyzer for the random phase of a quasisinusoidal signal. N. I. Gol'dberg, No. 3, 627, 1966.

Observation and measurement of cross-correlation characteristics of random signals. K. G. Kir'yanov, No. 1, 106, 1968.

Sign correlator for low-frequency signals. É. S. Burunsuzyan, O. V. Leonov, and M. G. Tokhmakhyan, No. 5, 1141, 1968.

Determination of the probability characteristics for the time to first attainment of set limits for a random process. V. A. Elagin and A. V. Blokhin, No. 3, 593, 1968.

Highly sensitive spectrum analyzer of low and infralow frequencies. V. M. Zhestovskii and B. A. Chekannikov, No. 3, 749, 1968.

Two-channel electrical signal spectrum analyzer. N. F. Vollerner, V. G. Kriksunov, and O. P. Lyusenko, No. 3, 803, 1969.

Panoramic adapters for the analysis of wideband spectra in the high- and superhigh-frequency bands. I. S. Fishman and N. P. Mukhortov, No. 5, 1214, 1969.

Precision analyzer for the very-low-frequency and low-frequency spectrum. V. A. Vlasenko, G. I. Lentukhov, and Yu. K. Filipskii, No. 6, 1501, 1969.

Experimental determination of the characteristics of the peaks of random processes. A. V. Blokhin, No. 4, 1053, 1969.

Instrument determination of duration probability distribution density of the fades of random processes. A. V. Blokhin, No. 2, 406, 1969.

Photoelectric spectrum analyzer for a one-shot process. Yu. I. Nechaev and I. S. Shpigel', No. 3, 692, 1969.

Analyzer for the spectra of the amplitudes and phases of cyclically repeating processes. V. G. Kriksunov and A. S. Tetel'baum, No. 1, 153, 1970.

Simple spectrum analyzer for low and infralow frequencies. V. M. Zhestovskii and V. I. Rubtsov, No. 2, 615, 1970.

Experimental study of the extrema of random processes. M. I. Forman and N. F. Zaika, No. 2, 617, 1970.

Measurement of characteristics of extrema of random processes. A. V. Blokhin, No. 3, 830, 1970.

Correlator for investigating random processes in a plasma. V. A. Rodichkin, G. A. Serebrenyi, and A. M. Timonin, No. 1, 177, 1971.

Infralow-frequency spectrum analyzer. V. V. Losev, No. 3, 794, 1971.

A transistorized spectrum analyzer for low-frequency electrical fluctuations. A. Ya. Zonov and N. N. Solin, No. 4, 1101, 1971.

Semiconductor spectrometer. B. T. Gusev, S. I. Isataev, and S. B. Tarasov, No. 1, 326, 1971.

Frequency spectrum analyzer for a single RF pulse. I. S. Savchenko, V. A. Khorunzhii, V. A. Pis'menetskii, and G. I. Zverev, No. 6, 1701, 1971.

Unit for investigation of the joint probability distribution of the amplitude and phase of radio signals. L. K. Andrusevich, V. N. Karpov, and D. I. Sheinman, No. 3, 789, 1971.

Determination of the differential distribution laws of the interval between fades of random processes. E. G. Lebed'ko, G. A. Aver'yanov, A. S. Egorov, A. M. Romanov, and F. I. Khaitun, No. 6, 1704, 1971.

Attachment to the AI-128 analyzer for measuring the probability density of random processes. V. S. Gorbenko, A. A. Zakalyuk, E. M. Pustovoitov, and S. V. Pasechnyi, No. 3, 934, 1971.

Determination of the distribution laws of random processes recorded on photographic film. A. P. Beloshitskii, No. 3, 792, 1971.

Spectral-analyzer installation (SA-5). N. F. Vollerner, V. G. Kriksunov, Yu. F. Alekseenko, S. V. Balitskii, V. V. Bergulev, B. A. Boichuk, A. B. Grozin, I. V. Latenko, E. M. Limonnik, V. P. Onashchenko, E. M. Sikorskii, O. I. Tanygina, and N. M. Todosienko, No. 4, 1286, 1972.

Instrument for measuring the statistical characteristics of a two-component random signal. V. E. Yamnyi, N. I. Kirkorov, M. V. Komar, V. V. Shlyakhtin, and P. P. Shlyarenko, No. 4, 1284, 1972.

Use of a scale-time converter for equipment analysis of random processes. A. V. Blokhin, No. 4, 1276, 1972.

Instrument for measuring the number of excursions of a realization of a stationary random process. V. I. Khimenko and I. I. Chadovich, No. 3, 755, 1972.

Multichannel analyzer for analyzing the probability density of the fluctuations of the period of quasiperiodic signals. I. A. Malevich, Yu. I. Postoyanov, and A. F. Chernyavskii, No. 4, 1285, 1972.

Multichannel analyzer for rapidly varying frequencies. A. A. Mikhailichenko, V. F. Turkin, and I. S. Fishman, No. 3, 745, 1972.

Analysis of the accuracy of measuring the mean-square value of noise signals by a squaring device based on field-effect transistors. V. G. Il'enkov and Yu. N. Kichkin, No. 3, 953, 1972.

Broadband correlometer with a multiplication block based on vacuum thermal transducers. V. I. Sazanov, No. 1, 156, 1972.

Correlation amplifier for studying fluctuation phenomena. Ya. A. Kraftmakher and A. G. Cherevko, No. 4, 1146, 1972.

Correlation detector in a signal-detection mode. A. P. Dyatlov, L. A. Boli, and V. I. Khokhlov, No. 5, 1426, 1972.

Sign-coincidence correlator with a discrete delay line. B. A. Kozelov and P. A. Shevchenko, No. 6, 1714, 1972.

A radio-signal dispersion spectrum analyzer. V. A. Zhukov, A. M. Kiryukhin, L. P. Konovalova, V. V. Mikhailov, O. D. Moskalets, and G. K. Ul'yanov, No. 4, 1289, 1973.

Device for obtaining the distribution functions of random processes. Yu. S. Radchenko and Yu. V. Yasyrev, No. 1, 150, 1973.

Classification of random processes using their structural properties. A. I. Kundin, V. V. Teterin, and F. K. Grannikov, No. 5, 1494, 1973.

An instrument for determining a differential distribution law. B. A. Verklov, S. I. Zaitsev, and Yu. A. Berezhko, No. 6, 1857, 1973.

Estimating the degree of approximation of a distribution law to the Gaussian law. E. V. Aleksenko and G. I. Filippov, No. 1, 145, 1973.

A multichannel time selector. V. G. Kolaidov and Yu. A. Panov, No. 2, 652, 1973.

A broadband correlometer. V. I. Sazanov, No. 3, 825, 1973.

The ASS-I, ASA-Z, and ASA-V filter automatic spectrum analyzers. N. F. Vollerner, V. G. Kriksunov, V. N. Sukharev, V. V. Bergulev, B. A. Boichuk, I. V. Latenko, G. A. Levin, E. I. Sikorskii, V. M. Userdnyi, and V. K. Chelpanov, No. 3, 917, 1974.

Differential infralow-frequency spectrum analyzer. P. A. Klyushkin, V. V. Semenov, and V. N. Toisev, No. 4, 1058, 1974.

Multichannel digital statistical analyzer for random processes. A. A. Os'minin, A. D. Gorbokonenko, A. S. Lushnikov, M. G. Kashin, and N. G. Zakharov, No. 6, 1806, 1974.

Instrument which measures the integral distribution function of braodband random processes. G. I. Smetanin, and E. V. Mironov, No. 4, 1062, 1974.

Instrument for recording the distribution laws of duration fades of random processes. K. N. Bakinovskii, V. P. Kuznetsov, A. V. Potapov, and A. F. Chernyavskii, No. 4, 1236, 1974.

A meter for measuring the dispersion of a random quantity. S. S. Gasparyan, No. 2, 434, 1974.

Measurement of the correlation intervals of random processes. A. V. Blokhin, No. 2, 613, 1974.

Measurement of extremal values and integration of rapidly varying irregular signals by means of a pulse-amplitude analyzer. K. A. Zhdanov, V. G. Zatsepin, and É. A. Tishchenko, No. 1, 154, 1974.

Circuit for measuring the distribution function of the intensity fluctuations of laser radiation. L. N. Gus'kov and B. I. Troshin, No. 2, 443, 1974.

A device for automatic search for the intervals of a noise frequency spectrum which are free from narrowband interferences. A. A. Gorbachev and G. I. Lazdin, No. 1, 142, 1974.

Measurement of the mean-square value of noise signals. I. L. Povkh, G. P. Eremin, V. G. Kondratenko, N. I. Plyusnin, and A. I. Yatsenko, No. 2, 440, 1974.

Correlometer for investigating the spatial devlopment of a plasma instability. B. I. Kanaev, V. V. Piterskii, and E. E. Yushmanov, No. 3, 784, 1974.

Multivariable digital correlometer. V. N. Andreev, A. P. Gormatyuk, Yu. I. Gribanov, V. A. Demir, V. V. Zhertovskii, P. K. Karpov, and L. A. Matalin, No. 3, 833, 1975.

The UMP-5 multichannel digital synchrodetector. Yu. N. Artyukh, V. A. Bespal'ko, Ya. Ya. Miller, and V. S. Rylov, No. 2, 656, 1975.

A broadband analyzer of time-sequence fluctuations. B. P. Ustinov, I. A. Malevich, and V. M. Baranchikov, No. 4, 1312, 1975.

Meter for measuring the statistial characteristics of electrical signals. L. N. Martynov, V. F. Otchalko, N. G. Perekhod, M. A. Chernov, K. M. Shul'zhenko, and L. M. Shcherbanskii, No. 4, 1311, 1975.

A multichannel digital statistical analyzer for the analysis of the peaks of random processes. A. S. Lushnikov, A. A. Os'minin, N. G. Zakharov, and A. D. Gorbokenenko, No. 2, 654, 1975.

Adaptive random process analyzer. A. K. Bitus, Yu. V. Eganov, V. V. Makarevich, V. A. Osyannikov, A. V. Pakhomenko, No. 1, 314, 1975.

Automatic measurement of the distribution of the extrema of random processes. V. A. Konstantinov, V. G. Vozzhaev, V. A. Gorlovskii, and Yu. I. Lykov, No. 6, 1768, 1975.

A two-coordinate statistical analyzer and curve tracer. Yu. V. Eganov, V. V. Makarevich, V. A. Osyannikov, A. V. Pakhomenko, and N. G. Pochinchuk, No. 2, 655, 1975.

A spectrum analyzer for noise and harmonics. V. M. Zhestovskii, A. T. Ivanov, and V. N. Kupryakov, No. 6, 1988, 1975.

A harmonic analyzer with an electrodynamic filter. V. F. Andreev, V. Ya. Kalinin, and L. D. Metelev, No. 6, 1845, 1975.

Infrasonic spectral analyzer. Yu. A. Abramov, V. S. Bessmertnyi, G. P. Bolotov, M. S. Kozlov, M. V. Odintsov, and N. P. Cheragin, No. 3, 838, 1975.

A multichannel stroboscopic analyzer for analyzing the shape of solitary quasiperiodic signals. M. I. Demchuk, V. N. Denisenko, A. V. Potapov, V. N. Khaiminov, and A. F. Chernyavskii, No. 6, 1987, 1975.

Measurement systems for analysis of fast single-shot processes. V. I. Vinogradov and A. F. Denisov, No. 1, 149, 1975.

Analog device for separating complex spectral curves into individual components. Yu. N. Chirgadze, Yu. V. Safroshkin, and S. V. Biryukov, No. 4, 1169, 1975.

Multifunctional analyzer of the distributions of broadband signals. V. V. Gaishun, Yu. V. Eganov, V. V. Zyablitsev, V. A. Ovsyannikov, A. V. Pakhomenko, and N. G. Pochinchuk, No. 4, 1239, 1976.

Multichannel spectral analyzer for the 1-300-kHz frequency range. V. A. Pis'menetskii, N. V. Sobol', I. S. Savchenko, V. A. Khorunzhii, E. E. Tsytko, and O. V. Yashkov, No. 2, 594, 1976.

Low-frequency noise spectrum analyzer. A. Ya. Sal'nichenko, No. 5, 1358, 1976.

Statistical analyzer with equiprobable quantization. A. K. Butus, Yu. V. Eganov, Yu. V. Kucherenko, V. V. Makarevich, V. A. Ovsyannikov, and A. V. Pakhomenko, No. 4, 1240, 1976.

Installation for statistical analysis of phase fluctuations. Yu. M. Veshkurtsev, No. 3, 928, 1976.

Oscillographic measurement of distribution functions of random processes. L. S. Mettus and A. D. Shishkin, No. 6, 1706, 1976.

High-speed correlometer based on an ultrasonic delay line. N. F. Vollerner, A. V. Maistruk, Vs. A. Gudym, and M. M. Yarkin, No. 4, 1241, 1976.

BKChKh-1 block for compensating frequency responses. A. V. Blokhin, M. I. Kolodin, Yu. I. Rebrin, V. A. Romanov, V. P. Shabashov, and A. F. Gorbuntsov, No. 3, 929, 1976.

7.2.7. Oscillographs

Memory device for observing one-shot processes on a cathode-ray oscilloscope. A. P. Tsitovich and V. I. Efremenko, No. 3, 382, 1958.

Pulsed high-speed oscilloscope. L. S. Bartenev, G. V. Glebovich, L. V. Goriachev, and Iu. A. Sharov, No. 4, 525, 1958.

A circuit for oscillographing the volt-ampere characteristic of a photodiode. B. V. Tsarenkov, No. 2, 329, 1960.

Control of an oscilloscope cathode-ray tube with mechanical scanning. V. M. Vyrodov and T. V. Pogorelova, No. 1, 73, 1960.

Oscillographic method for measurement of parameters in gaseous discharge plasma. S. M. Levitskii and Z. A. Plyatsok, No. 2, 358, 1961.

Ultra-high-speed pulse oscillograph. L. S. Bartenev, G. V. Glebovich, and K. N. Ptitsin, No. 6, 1120, 1961.

Amplifying attachment for oscillography of short pulses. A. I. Veretennikov, V. Ya. Averchenkov, A. G. Egorov, and Yu. A. Spekhov, No. 2, 312, 1961.

Broadband cathode-ray oscillograph tube. Yu. A. Akimov and B. M. Stepanov, No. 5, 991, 1962.

High-velocity oscillograph using traveling wave cathode-ray tubes. V. M. Gorbachev, V. N. Korolev, and N. A. Uvarov, No. 1, 92, 1963.

A UHF sampling oscilloscope. E. B. Volodin and V. N. Nikiforov, No. 6, 1108, 1963.

A sampling oscilloscope operating in conjunction with an ÉPP-09M1 potentiometer recorder. M. E. Glushkovskii, No. 5, 896, 1963.

Method of improving the accuracy of time-interval readings on oscilloscopes. A. G. Golubkov, No. 5, 900, 1963.

On a method for calibrating the duration of oscilloscope scanning. S. V. Medved' and E. B. Ozerov, No. 1, 167, 1963.

Four-channel electronic commutator based on semiconductor devices. I. M. Raevskii, No. 1, 168, 1963.

Oscilloscopic method for measuring currents and voltages with respect to the characteristics of tunnel diodes. Yu. V. Solov'ev, No. 1, 164, 1963.

Oscilloscopic recording of the fronts of high-voltage nanosecond pulses. G. A. Vorob'ev, A. I. Golynskii, and G. S. Korshunov, No. 5, 986, 1963.

High-frequency oscilloscope-synchronizer. V. I. Vinogradov and A. F. Kovalskii, No. 4, 870, 1964.

Modification of the OK-17M oscilloscope. N. P. Melnikov, G. A. Ostroumov, and A. A. Shteinberg, No. 1, 141, 1964.

A high-voltage divider for use with vibrating-reed and electronic oscillographs. A. I. Aizenshtein, No. 1, 137, 1964.

A high-speed five-beam oscillograph. A. F. Dunaitsev, V. I. Petrukhin, Yu. D. Prokoshkin, and V. I. Rykalin, No. 2, 357, 1965.

The use of a single-beam oscillograph to study two processes simultaneously without switching. A. P. Smirnov, N. F. Fedorov, and B. N. Formozov, No. 6, 1437, 1965.

Observation of signal shape at high noise levels by multiple oscillographing. E. B. Aleksandrov, A. M. Bonch-Bruevich, and V. P. Kozlov, No. 5, 1132, 1965.

A synchronizing attachment to the S1-14 and I2-7 high-speed oscillographic instruments. V. I. Vinogradov, No. 6, 1517, 1965.

A highly sensitive cathode-ray curve tracer with intensity modulation. A. P. Smirnov and V. N. Totubalin, No. 6, 1435, 1965.

An oscilloscope attachment for plotting volt-ampere characteristics in a wide range of currents. G. A. Dyuzhev, A. M. Martsinovskii, B. I. Tsirkel', and V. G. Yur'ev, No. 5, 1138, 1965.

A cathode-ray curve tracer with differentiation of the volt-ampere characteristics of tunnel diodes. A. M. Agaev, V. I. Fistul', and V. G. Shunyaev, No. 4, 895, 1965.

High-speed high-sensitivity pulsed oscilloscope. L. S. Bartenev and V. S. Piskunov, No. 5, 1189, 1966.

A four-channel electronic commutator for an oscillograph. B. P. Fridman and B. P. Fridman, No. 3, 638, 1966.

Sensitive high-speed oscillograph. B. A. Utochkin, Yu. V. Rodnov, and O. A. Glupova, No. 3, 565, 1967.

Oscillographing pulses with an SHF carrier. M. M. Filippov, A. N. Bukin, and V. I. Zhavoronkov, No. 3, 561, 1967.

Wideband oscillograph tube for recording weak single electric signals. V. S. Gusel'nikov, V. I. Zhavoronkov, and P. A. Tarasov, No. 1, 126, 1967.

Oscillography of the envelope of low-power nanosecond microwave radio pulses. V. P. Vard'ya, A. N. Kozyr'kov, and V. S. Romanov, No. 3, 620, 1968.

Oscillograph tube with fiberglass faceplate for recording single electrical signals of nanosecond duration. P. A. Tarasov and V. I. Zhavoronkov, No. 6, 1400, 1968.

Estimating the brightness of the light spot on an electron-beam (cathode-ray) tube. T. M. Duzhii, M. I. Popov, B. M. Rabin, and V. N. Shkundenkov, No. 6, 1468, 1968.

Automatic compensation to improve precision in oscillographic recording. V. I. Bayunov, M. I. Demidov, and I. V. Podmoshenskii, No. 6, 1402, 1968.

Circuit for synchronizing the triggering of an oscilloscope. A. G. Belyavskii, No. 5, 1171, 1968.

Equipment for reproducing a signal from its oscilloscope photograph. P. A. Andreev, V. N. Arzumanov, and V. Yu. Petrun'kin, No. 2, 390, 1968.

Cathode-ray null indicators for compensation measurements of pulse voltages. S. I. Pavlov and G. M. Topchiev, No. 6, 1484, 1969.

Display of volt-capacitance and volt-ampere characteristics. Z. Abbyasov, V. A. Shevaldin, and A. S. Maksimov, No. 6, 1504, 1969.

Recording volt–ampere characteristics by means of single sweep pulses. A. M. Martsinovskii and B. I. Tsirkel', No. 2, 423, 1969.

Determining the volt–ampere characteristics of discrete processes of short duration. U. A. Arifov, V. V. Kazanskii, V. B. Lugovskoi, and V. A. Makarenko, No. 5, 1218, 1969.

Synchronizer for a delayed oscillograph sweep pulse from the pulse series being studied. N. K. Vishnevskii, V. I. Rykalin, and V. P. Khromov, No. 4, 916, 1969.

Fifteen-beam oscillograph for time measurements. L. I. Andreeva, S. A. Kaidalov, N. N. Lebedev, I. Sh. Model', B. M. Stepanov, V. A. Tsukerman, and V. G. Cherepakhin, No. 6, 1702, 1970.

Two-channel oscilloscope indicator with high resolution for the investigation of random processes. D. G. Bulyginskii, M. I. Vil'dzhyunas, and B. A. Utochkin, No. 3, 826, 1970.

Transistorized remote amplifier for the S1-11 oscillograph. G. S. Dragun, No. 3, 948, 1970.

Minature device for obtaining intermediate temperatures. N. B. Brandt, E. A. Svistova, and M. V. Semenov, No. 2, 591, 1970.

Pulse television for measurement purposes. O. M. Bakhtin, G. A. Ivanov, and S. V. Khudyakov, No. 2, 510, 1970.

Sequence photography of a television image. I. V. Krinskii and É. N. Shumilov, No. 1, 184, 1970.

Noise discriminator based on the model S1-21 stroboscope. G. S. Anufriev and M. I. Vainshtein, No. 2, 507, 1970.

Use of memory cathode-ray tubes in standard oscilloscopes. N. S. Babenko, N. N. Vashchenyuk, A. A. Egorov, and A. N. Sudarkin, No. 2, 648, 1971.

Television camera for stroboscopic investigations. G. N. Gryazin, V. S. Saltykov, and A. N. Kapnin, No. 4, 1094, 1971.

Oscillography in Van der Pohl coordinates. S. V. Inosov, No. 5, 1397, 1971.

Multibeam Schlieren oscilloscope for pulsed plasma. A. A. Beshaposhnikov, G. G. Zukakishvili, I. Kh. Kuchuberiya, and N. V. Semenova, No. 2, 503, 1971.

Device for storage and display of text. V. S. Govorov, No. 3, 754, 1971.

Symbol generator. V. S. Govorov and V. F. Sitov, No. 5, 1385, 1971.

Bench for stroboscopic oscillographing, which has automatic setting of the time scale. E.-A. K. Bagdanskis and A. I. Naidenov, No. 6, 1888, 1972.

Expansion of the dynamic range of a nanosecond oscilloscope. E. N. Ragozin and V. A. Chirkov, No. 5, 1601, 1972.

Oscillographing of microwave oscillations in semiconductor instruments. V. I. Zhavoronkov, No. 3, 765, 1972.

Unit for automatic determination of the distribution laws of signals and noise on the screen of a cathode-ray tube with intensity display. A. P. Beloshitskii and Yu. V. Yakovlev, No. 3, 943, 1972.

Automatic initiation and streak photography of the oscillograms of high-voltage electrical discharges. V. P. Lopatyshkin, M. L. Varlamov, and A. A. Plotnikov, No. 2, 412, 1972.

Oscilloscopic installation for research in the field of semiconductor microwave electronics. V. I. Zhavoronkov, P. I. Chilikin, and S. I. Zhavoronkov, No. 2, 508, 1973.

The application of S1-39M and S1-60 stroboscopic oscilloscopes in the investigation of wave parameters. L. N. Izgagin, A. Yu. Kazakov, and N. Z. Shvarts, No. 5, 1486, 1973.

Attachment to a stroboscopic oscilloscope for the observation of periodic groups of nanosecond pulses. A. I. Naidenov and B. A. Chelnokov, No. 2, 634, 1973.

Simple method for oscillographing energy spectra. A. F. Kivshik, A. F. Bats, and V. F. Pilipenko, No. 1, 152, 1973.

Digital vectograph. I. I. Zadubovskii, B. N. Krasnogolovyi, and V. D. Rudenko, No. 2, 467, 1973.

Simulation of projection images by means of electronic automatic devices. A. G. Balyshev, V. A. Vorob'ev, V. K. Kivran, and O. V. Filonin, No. 2, 604, 1973.

Increasing the sensitivity of the S1-14 oscilloscope. Yu. L. Kurkin and L. M. Pakhomov, No. 2, 637, 1973.

An electron-optic attachment for a high-speed microwave oscilloscope. V. I. Zhavoronkov, S. I. Zhavoronkov, and P. I. Chilikin, No. 6, 1990, 1975.

An electron-optic attachment for streak recording of one-shot oscillograms. V. I. Zhavoronkov and M. M. Filippov, No. 2, 502, 1975.

Eight-channel oscillograph for recording one-shot processes. E. E. Goller, A. Ya. Sidorin, V. N. Avakova, V. A. Erofeev, A. V. Bazhanov, G. K. Goryunova, and T. S. Persidskaya, No. 2, 593, 1976.

Device for starting the sweep of an FNK oscilloscope. I. A. Popov (compiler), No. 4, 1242, 1976.

7.3. Pulse Technique

Pulsed devices based on monolithic integrated circuits (review). A. V. Kutsenko, B. A. Polos'yants, and V. A. Shirochenkov, No. 4, 989, 1973.

Avalanche semiconductor negatrons and their application (review). V. P. D'yakonov, No. 3, 665, 1973.

Single-conductor line corrected for transmission of high-tension pulses. G. I. Zheleiko, No. 2, 300, 1958.

Impedance transformer with small output resistance. U. B. Soltanov, No. 3, 436, 1958.

Modulation method of identifying weak pulse signals. A. G. Gorelik and V. V. Kostarev, No. 1, 80, 1959.

Instrument for adjustment of pulse apparatus in the nanosecond range. O. S. Kolotov, A. A. Sanin, and Z. Shil'bersky, No. 5, 904, 1961.

The use of a multigrid vacuum tube as a detector with low transfer capacitance. V. K. Zlatarov, No. 3, 576, 1961.

A photoelectric method of extracting weak pulse signals. V. I. Chernysh, No. 2, 306, 1961.

Pulse operation of phototubes. V. N. Kostin and V. M. Tkachenko, No. 1, 175, 1962.

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A simple pulse expander. V. N. Akimov, V. P. Yavorskii, and M. Z. Chapovskii, No. 2, 422, 1969.

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A pulse distributor. V. M. Barbasov, E. N. Belov, I. K. Krylov, S. N. Neustroev, and A. K. Solov'ev, No. 1, 141, 1975.
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7.3.1. Pulse Generators

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A transistor single pulse generator. K. M. Abzianidze and Z. A. Shkliar, No. 2, 302, 1958.
A generator of short-duration pulses. O. S. Kolotov, Yu. N. Lobanov, A. S. Obukhov, and N. M. Polev, No. 3, 430, 1960.
A pulse generator having a controlled delay time. Yu. N. Prozorovskii, No. 3, 502, 1960.
An electronic lag generator for pulsed roentgenography. N. A. Bekeshko, No. 1, 75, 1960.
A source of nanosecond pulses of continuously variable width. O. S. Kolotov, Yu. N. Lobanov, and Z. Shil'berskii, No. 3, 501, 1961.
A generator of nanosecond pulses of rectangular shape. V. I. Lapin and S. Ya. Shats, No. 5, 909, 1961.
Raster timebase without dead time. V. M. Gorbachev, N. A. Uvarov, and L. D. Usenko, No. 3, 507, 1961.
Scanning oscillator with a short lag time. N. A. Uvarov, No. 5, 997, 1961.
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A source of short pulses for adjusting high-speed radio circuits. O. S. Kolotov and V. A. Pogozhev, No. 1, 155, 1963.

A generator for square voltage pulses of large amplitude. K. G. Finogenov, No. 4, 777, 1963.

A wideband transistor pulse generator. E. A. Lukin and B. I. Shitikov, No. 6, 1178, 1963.

High precision impulse generator. A. I. Gerasimov and G. V. Sklizhov, No. 5, 909, 1963.

A generator of bipolar pulses for the investigation of ferroelectric crystals. D. A. Tambovtsev and A. S. Novoselov, No. 5, 906, 1963.

An ultra-low-frequency generator for short pulses. A. N. Abramov, No. 1, 160, 1963.

Generating nanosecond pulses of superhigh-frequency oscillations. S. I. Andreev, B. M. Lebed', and B. M. Sokolov, No. 5, 904, 1963.

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Generator for current pulses of long duration. Yu. T. Baiborodov, No. 6, 1226, 1964.

A pulse packet generator. S. S. Batalin, No. 4, 900, 1964.

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On the stability of duration of pulses generated by secondary-emission tubes. A. F. Serov and L. I. Yudin, No. 5, 1152, 1965.

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Generator for current pulses of rectangular shape using a silicon controlled rectifier. V. N. Aizenberg and V. A. Chesnokov, No. 6, 1490, 1966.

Generator of unipolar triangular and trapezoidal current pulses. V. V. Ivashin and G. A. Sipailov, No. 5, 1178, 1966.

A generator for pulses of precise amplitude. V. M. Rozhkov, No. 6, 1405, 1966.

A Vernier-type control-pulse generator. Z. M. Kanevskii, No. 3, 655, 1966.

Transistorized generator of periodic pulse packets. A. D. Serov, No. 5, 1187, 1966.

Generator for a series of random pulses. V. N. Kuz'michev, No. 2, 353, 1966.

A regulated transformer output for a pulse generator. O. T. Lebedev, No. 2, 487, 1966.

Short-current-pulse generator. S. T. Latushkin and L. I. Yudin, No. 4, 807, 1967.

Pulse generator with a high repetition rate. A. D. Grigor'ev, No. 1, 118, 1967.

Pulse generator with adjustable delay using tunnel diodes. S. D. Dunaev and M. I. Shchevelev, No. 2, 443, 1967.

Avalanche-transistor pulse-train generator. V. F. Chechetenko, No. 3, 679, 1967.

Distributed-pulse generator. L. K. Samoilov and V. E. Mel'nik, No. 6, 1334, 1967.

Radio-frequency pulse generator. V. N. Lazakov, No. 4, 812, 1967.

Driven generator using a tunnel diode and a short-circuited delay line. A. A. Ivanov, V. S. Nesterenko, and L. A. Timokhin, No. 3, 550, 1967.

High-speed transistor blocking oscillator with no external bias. V. N. Slyusar', No. 6, 1429, 1967.

Semiconductor pulse modulator for a high frequency tube oscillator. V. A. Rezvov and L. I. Yudin, No. 2, 445, 1967.

Using lengths of coaxial cable in circuits of nanosecond blocking generators. O. S. Kolotov and V. A. Pogozhev, No. 3, 683, 1967.

Output stage of pulse generator with low internal impedance. M. Drazhev and G. Stainov, No. 3, 681, 1967.

Precision-amplitude pulse generator. V. M. Suvorov and A. I. Shchetkovskii, No. 4, 880, 1968.

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Monovibrator with output pulse stretching. K. Korbel', No. 6, 1399, 1968.

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Pulse generator based on dinistors. V. A. Grechishkin, N. P. Zorin, L. A. Ushakov, and Yu. D. Kharizman, No. 5, 1128, 1968.

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Correction of the pulse shape of a relaxation generator using a secondary emission vacuum tube. O. S. Kolotov, No. 4, 891, 1968.

Pulsed magnetron triggered by trains of sync pulses. D. G. Borisov and A. I. Gryzlov, No. 2, 379, 1968.

Nanosecond pulse generator. A. P. Budennyi and A. A. Shishkevich, No. 6, 1461, 1969.

Square-wave generators using avalanche transistors. V. P. D'yakonov, No. 4, 1058, 1969.

Generator producing a series of pulses with an exponentially increasing repetition frequency. V. I. Kazachkov and I. V. Aref'eva, No. 2, 376, 1969.

Pulse-train generator with a phase-controlled end of the train. V. V. Marchenkov and A. P. Nekhai, No. 1, 87, 1969.

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Nanosecond pulse genertors for exciting semiconductor lasers. I. D. Mitsenko, G. S. Grishaev, and A. A. Dement'ev, No. 2, 386, 1969.

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Short-radio-pulse generator. V. D. Dvornikov, S. T. Latushkin, and L. I. Yudin, No. 3, 804, 1969.

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Timing marker generator. K. M. Lekishvili, A. A. Dzidziguri, O. L. Khazaradze, and G. S. Gedevanishvili, No. 6, 1468, 1969.

Starting-pulse generator with high interference immunity. V. V. Polyudov, R. L. Rabinovich, and Yu. G. Fufachev, No. 3, 665, 1969.

Generator with digital output pulse frequency control. B. A. Kotov and R. F. Suramanov, No. 5, 1355, 1970.

Broadband nanosecond pulse generator. Yu. G. Budyashov, Yu. M. Valuev, V. G. Zinov, and B. S. Krasnoborodov, No. 6, 1641, 1970.

Small-sized pulse generator. E. N. Grekov and V. V. Syasin, No. 4, 1247, 1970.

Miniature impulse generator. E. N. Grekov and V. V. Syasin, No. 2, 630, 1970.

Voltage pulse generator. E. N. Grekov, V. S. Baldikhin, and A. A. Kandaev, No. 5, 1543, 1970.

Square pulse generator with pulses of large amplitude and of varying duration and frequency. D. M. Timush, No. 3, 811, 1970.

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Dual-channel impulse generator. E. N. Grekov and V. V. Syasin, No. 2, 629, 1970.

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Start-stop pulse generator for a gas laser. A. A. Besshaposhnikov and I. Kh. Kuchuberia, No. 4, 1121, 1970.

Pulse generator for stabilizing a spectrometer circuit. V. V. Marchenkov and A. P. Nekhai, No. 1, 135, 1970.

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Thyristor pulse circuit for controlling the explosion of a thin wire. Ya. S. Brovman and P. I. Slezinger, No. 1, 139, 1970.

Symbol generator. V. S. Govorov, No. 6, 1612, 1970.

Pulse current generator. E. N. Grekov, V. T. Sigitov, and V. S. Baldikhin, No. 3, 959, 1970.

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Short-current-pulse generator for supplying semiconductor lasers. A. I. Andrushko, No. 4, 1085, 1971.

An rf-pulse generator with phase locking of the high-frequency carrier. V. N. Gubarchuk, No. 2, 474, 1971.

Rectangular rf-pulse generator. G. P. Petin, No. 3, 775, 1971.

Digital precision pulse generator. N. K. Lastochkin, V. N. Inzhevatov, and E. E. Yakovlev, No. 1, 121, 1971.

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Transistorized nanosecond pulse generator. A. M. Fishtein, No. 3, 773, 1971.

Nanosecond-pulse generator using thyristors. I. I. Rozhkov, No. 4, 1083, 1971.

Relaxation oscillator based on an avalanche transistor with forced self-synchronization. V. P. D'yakonov and D. G. Ali-Zade, No. 3, 777, 1971.

Generator which produces control pulses and pulse gates. S. G. Basiladze, No. 3, 770, 1971.

Pulse generator for monitoring the linearity of spectrometric equipment. A. A. Ostapenko, No. 2, 476, 1971.

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7.3.3. Pulse Shaping

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7.3.4. Delay Devices

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7.4.1. Microwave Oscillators, Amplifiers, and Multipliers

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7.4.3. Microwave Detectors and Indicators

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7.4.4. Measurement of Microwave Parameters of Materials

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7.5.1. Radiospectrometers

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A double-tuned nuclear magnetic resonance pickup for a flowing liquid. S. S. Semenyuta, No. 1, 161, 1976.

Faraday screen for nuclear-magnetic-resonance spectrometer with crossed coils. S. V. Rykov, N. A. Shatalov, and A. V. Kessenikh, No. 6, 1705, 1976.

Resonance cell for a double nuclear-electron-resonance spectrometer operating in a magnetic field of 120-350 G. V. I. Baldin and A. P. Stepanov, No. 5, 1442, 1976.

7.6. Power Supplies and Regulators

An effective method of reducing 100-cycle ripple. A. V. Lashas, No. 1, 141, 1958.

A stabilized power supply. I. G. Gol'dreer and V. Iu. Roginskii, No. 4, 562, 1958.

Stabilization of dc current and voltage using a permanent magnet as a reference. B. P. Peregud, No. 5, 650, 1958.

Certain peculiarities of negative feedback and their application in an electronic potential divider. A. I. Aizenshtein, No. 2, 285, 1959.

An effective method for regulating filament current. A. N. Tkachenko, No. 5, 845, 1959.

A new type of stabilizer for large currents. L. Gládek and M. Rálek, No. 5, 803, 1960.

Stabilizers of weak currents. A. N. Vetchinkin, No. 3, 456, 1960.

A stabilizer for dc heater supplies. A. F. Dravskikh, No. 1, 108, 1960.
An electronic voltage stabilizer for supplying transistor circuits. G. N. Muskhelishvili and G. V. Zakomornyi, No. 4, 663, 1960.
A transistorized stabilized converter. N. I. Burenkov, V. A. Voronov, and F. Ya. Sal'man, No. 6, 983, 1960.
Use of positive feedback in stabilized power supplies. A. A. Sanin and S. A. Sergeev, No. 2, 263, 1960.
Static 50- to 300-cycle frequency converter. A. V. Lashas, No. 1, 150, 1960.
Cathode current stabilizer. G. S. Anufriev, V. A. Zagulin, and B. A. Mamyrin, No. 5, 939, 1961.
An emission stabilizer for the cathodes of ionizat:on gauges which are based on crystal triodes. E. A. Penchko, No. 4, 720, 1961.
Simple method for stabilizing trigger circuit amplitudes. V. D. Lavrenikov and A. A. Osochnikov, No. 6, 1168, 1961.
Voltage stabilizer for motorized autotransformers. V. S. Gumenyuk, No. 3, 603, 1961.
Inverted converters which are based on the p—n junction nonlinear capacitance. L. S. Berman, No. 3, 581, 1961.
A self-excitation rotary electrostatic generator with assigned output voltage polarity. A. F. Kalganov and V. P. Shcherbinin, No. 1, 145, 1961.
A laboratory rectifier with voltage control. V. V. Panenko, No. 1, 203, 1961.
An adjustable low-voltage regulator for transistors. O. V. Lebedev and A. A. Cherkesov, No. 4, 777, 1961.
Silicon voltage stabilizers under power balance conditions. R. D. Baglai and L. S. Sitnikov, No. 1, 134, 1962.
A 0-24-V stabilized rectifier. V. L. Zmudikov, No. 5, 1053, 1962.
PPT-2 direct current converter. B. M. Kotov, No. 2, 399, 1962.
Electronic voltage regulator. S. A. Yur'ev, No. 2, 294, 1963.
Stabilized low-voltage power supplies. O. P. Golovin, No. 4, 698, 1963.
Precision voltage and current regulators using transistors. G. N. Muskhelishvili and V. R. Mikirtumov, No. 6, 1117, 1963.
Motor-driven voltage regulator for autotransformers. G. E. Pletenetskii and S. A. Girka, No. 3, 552, 1963.
Converters for transforming dc current into higher supply voltage. A. G. Gontsov, No. 2, 357, 1963.
Supply system for pulse operated stroboscope lamps using induction-type power accumulation. V. P. Zhil'tsov and L. F. Lobov, No. 1, 95, 1963.
Suppression of voltage pulsations at the outputs of cascade generators. I. V. Mozin, No. 2, 345, 1963.
Stabilized semiconductor power supplies for 150 and 300 volts output. Yu. V. Safroshkin, No. 6, 1246, 1964.
Supply of the amplifiers of SF-4 and SF-5 spectrophotometers. P. N. Saloshenko, No. 1, 243, 1964.
Direct current stabilization system. I. Adam, Yu. N. Denisov, S. A. Ivashkevich, and M. Finger, No. 2, 382, 1965.
Stabilization of the voltage of dc generators. V. S. Voronin and S. S. Semenov, No. 4, 890, 1965.
A method of stabilizing and controlling cathode temperature. A. M. Martsinovskii, B. I. Tsirkel', and V. G. Yur'ev, No. 5, 1273, 1965.
Multichannel current stabilizer. V. S. Voronin and V. N. Kanunnikov, No. 1, 148, 1966.
System for regulating direct current with an EPR pickup. Yu. N. Denisov, S. A. Ivashkevich, and V. V. Kalinichenko, No. 5, 1205, 1966.
Stabilization of inverted tubes. I. A. Mishustin, No. 1, 128, 1966.
Device for direct-current regulation. V. A. Borisov, No. 4, 852, 1967.
Transistorized voltage regulator with a high regulation factor. R. É. Bagdasarov, No. 3, 594, 1967.
Fast-acting electronic potentiostat IP-410B. R. Filipov, No. 5, 1242, 1967.
Klystron-oscillator power supply for millimeter spectroscopes. F. P. Balobei, Yu. V. Kuznetsov, and V. A. Pryanishnikov, No. 6, 1494, 1966.
Suppressing voltage fluctuations of a power generator by means of a bipolar active circuit. S. S. Semenov, No. 4, 973, 1966.
Ac voltage stabilizer. I. A. Maleev, No. 6, 1430, 1966.

Stabilized power supply for arc spectral lamps. G. A. Grinev, No. 6, 1432, 1967.
Power supply for gas-discharge instruments. V. G. Luzhetskii, No. 6, 1374, 1967.
Circuit with feedback for exciting an ac generator. F. I. Mineev, No. 4, 904, 1967.
Wideband current stabilizers. S. S. Yastrebov, N. V. Lazarev, and A. M. Kozodaev, No. 4, 921, 1968.
Stabilized supply of the amplifiers of SF-4 and SF-5 spectrophotometers. A. A. Tsyganii, Yu. I. Yakubchuk, P. E. Pilipenko, and A. M. Azarov, No. 2, 405, 1968.
Method of supplying a reflex Klystron. F. F. Mende, V. M. Dmitriev, E. V. Khristenko, and G. E. Churilov, No. 2, 395, 1968.
Current regulation in a circuit with VK-200 rectifier diodes. L. S. Atroshchenko, No. 6, 1440, 1968.
Transistor current stabilizer for electron-tube heaters. E. I. Borovkov, No. 2, 402, 1968.
Wide-range precision dc stabilizer for galvanomagnetic measurements. A. A. Gorbatov and E. G. Rudashevskii, No. 6, 1526, 1969.
Current stabilizer with a wide range of control. V. A. Skubko and G. A. Kutya, No. 5, 1236, 1969.
Two-channel current stabilizer. I. G. Bershadskii, No. 4, 1087, 1969.
Dc stabilzer with an increased efficiency. K. D. Shmelev, No. 4, 956, 1969.
Investigation of a compensation-type current stabilizer tube. É. I. Kaftanenko and V. V. Polivanov, No. 6, 1532, 1969.
Use of magnetic amplifiers for measuring and stabilizing large direct currents. B. D. Omel'chenko, No. 3, 707, 1969.
Emission-current regulators. V. G. Danilov and A. P. Orekhov, No. 2, 425, 1969.
Narrow passband and blocking filter for a frequency of 50 Hz. S. K. Gracheva and V. A. Timofeev, No. 6, 1535, 1969.
A transistorized voltage stabilizer of 50-220 V for an inductive load. V. E. Lyapukhov and O. P. Revokatov, No. 1, 135, 1969.
Universal precision stabilized voltage source. A. N. Shcherban', N. I. Furman, N. S. Belgolovin, and A. V. Primak, No. 2, 514, 1970.
Precision dc stabilizer. L. P. Kolobaev and S. V. Kulikov, No. 6, 1805, 1970.
Semiconductor current regulator for gas discharge tubes. K. D. Shmelev and V. V. Tsukanov, No. 2, 631, 1970.
Cathode emission current stabilizer. A. Shvets, No. 4, 1159, 1970.
Transistor stabilizer for the discharge current of a gas laser. I. M. Divil'kovskii, D. V. Kovalevskii, and A. A. Matsveiko, No. 6, 1727, 1970.
Thyratron direct current regulator for series KVTMS-T high-power circuits. B. L. Omel'chenko, No. 5, 1414, 1970.
Solid-stage construction of converter controller. A. A. Smirnov, A. Z. Doroshenko, D. P. Kalmykov, and L. N. Belyaev, No. 1, 188, 1970.
Spark-chamber power-supply circuit with semiconductor trigger. A. F. Iyudin, A. V. Kurochkin, É. M. Shermanzon, and Yu. T. Yurkin, No. 4, 1058, 1970.
Automatic control of stability of heavy-current supplies. B. D. Omel'chenko, No. 6, 1730, 1970.
Stabilized power supply having a low pulsation level. V. A. Plotnikov and G. S. Serebryakov, No. 2, 538, 1971.
High-speed power stabilizer. L. B. Mashkinov, I. M. Goryainov, Yu. M. Grigor'ev, and L. N. Gal'perin, No. 2, 534, 1971.
Magnetomodulation pickup for stabilization of direct current. G. I. Kugushev, No. 3, 828, 1971.
Stabilizer of the current which heats the tapes of an ion source in a mass-spectrometer. S. P. Samsonov and I. M. Gorokhov, No. 5, 1440, 1971.
Stabilized power supply for the DRSh and DKsSh lamps. I. D. Bobrushkin, L. V. Velichkin, L. V. Karklit, A. K. Savenko, and E. N. Tverdokhlebov, No. 6, 1731, 1971.
Improving the reliability of stabilized VS-22 rectifiers. V. D. Gorin, No. 5, 1570, 1971.
Protection of a system of electronic modules from changes in power-supply voltage. L. S. Khurshudyan, No. 1, 193, 1971.
RF-voltage controller based on thermistors. L. R. Notkin and V. V. Marchenko, No. 2, 462, 1972.
Unitized block for a stabilized power supply. L. S. Khurshudyan and V. P. Vukolov, No. 5, 1609, 1973.

A device for stabilizing the charging voltage of a storage capacitor. V. V. Podmoskov and N. P. Anan'ev, No. 2, 654, 1973.

A low-level high-frequency voltage stabilizer. B. Z. Lubyanyi and A. P. Lebedenko, No. 5, 1503, 1973.

Static converter for supplying low-power three-phase motors at an elevated frequency. M. P. Murashko, No. 3, 844, 1973.

A stabilized controller for regulating the electric heating of the cathode of a thermionic converter. L. Ya. Garber, R. V. Kal'manovich, and M. M. Karpenko, No. 4, 1093, 1974.

An oscillator with a stabilized output voltage for a quadrupole mass spectrometer. G. A. Berezhnoi and E. Ya. Mel'nichuk, No. 5, 1402, 1974.

Stabilization of an alternating voltage across a load connected after a cable. N. I. Zakharova and Yu. G. Kochinev, No. 3, 772, 1974.

Circuit for controlling a thermostating device. B. A. Volkov, V. A. Gorozhanin, and R. G. Ramazanov, No. 5, 1473, 1972.

Promethium-147 nuclear batters with silicon converters. V. M. Kodyukov, A. A. Pustovalov, V. V. Gusev, A. A. Pochtakov, and L. T. Solodkin, No. 5, 1540, 1974.

A current and voltage stabilizer with a broad control range. V. I. Bab'yak, I. M. Kanevskii, A. M. Kolomatskii, and E. V. Skazochkin, No. 1, 175, 1974.

A noise-immune power supply package. V. G. Galalu, Yu. M. Vishnyakov, and N. A. Solyanichenko, No. 6, 1737, 1974.

A precision low-voltage economical switch-type voltage stabilizer. A. I. Loksh and A. P. Petukhov, No. 2, 472, 1974.

A stabilized voltage converter. V. I. Voronin, No. 4, 1021, 1974.

A stabilized ac voltage source. Li Don Hua, I. K. Tabarovskii, and V. A. Alekseev, No. 2, 474, 1974.

Compensation of the temperature instability of a reference-voltage source by means of a current. O. N. Averbukh, D. I. Stepanovskii, and A. I. Khandozhko, No. 4, 1096, 1974.

Control of the output voltage in power supplies with conversion of direct current to alternating current. Yu. V. Kuznetsov, E. V. Lazutin, I. M. Piskarev, and V. A. Khrushchev, No. 6, 1870, 1975.

Power-supply block of an ion source for mass spectrometers. A. Shvets, No. 5, 1515, 1975.

An automatically controlled power supply for a photoelectron multiplier. T. E. Zamora, V. P. Marinets, B. V. Osyka, and A. A. Smerdov, No. 2, 534, 1975.

Stabilization of the thermal power of the cathode of a thermionic converter during combined heating. G. M. Mailov and M. M. Karpenko, No. 6, 1860, 1975.

Stabilization of the emission current in a three-electrode gun. É. F. Chaikovskii, V. T. Sotnikov, and D. V. Sheinert, No. 5, 1511, 1975.

A compact stabilizer for supplying a gas laser. L. P. Pechenkin, V. K. Fokin, and V. P. Gerasimov, No. 5, 1518, 1975.

An independent power-supply circuit for a pulsed solid-state laser. A. S. Dubinker and E. V. Nilov, No. 2, 529, 1975.

Control of the supply of flashlamps. G. A. Aver'yanov, No. 2, 531, 1975.

Powerful source for gas-discharge lamps with increased pulse repetiation rate. A. G. Bomko and V. M. Vakulenko, No. 1, 295, 1975.

Thyristor controller. A. V. Churbakov, No. 4, 1182, 1975.

A regulated sinusoidal ac supply. M. B. Leitman and N. V. Kovalkov, No. 4, 1177, 1975.

Alternating current stabilizer. A. G. Volchenko and É. L. Kassatsier, No. 3, 889, 1975.

Converter using mains frequency and voltage for supplying synchronous motors. V. A. Kalachev and V. N. Verkhoturov, No. 3, 891, 1975.

A synchronized transistorized current converter. A. E. Fedorovskii and E. M. Ivanyushkin, No. 1, 168, 1976.

Power supply of a photoelectron multiplier for operation at a frequency of 100 MHz. S. G. Basiladze and V. I. Ivanov, No. 3, 805, 1976.

Two-step voltage stabilizer with increased efficiency. V. V. Dolgikh and V. I. Dolgikh, No. 5, 1451, 1976.

Pulse-operated voltage stabilizer. K. Kaunbaev, No. 6, 1724, 1976.

Economical voltage regulator for spatially distributed electronic systems. N. I. Zheludkov, V. A. Kareev, and V. V. Meer, No. 2, 492, 1976.

Economical power supply with galvanic isolation. G. V. Basalaev, No. 4, 1132, 1976.

Stabilizer rectifier unit. I. K. Kononov and V. S. Pakhuta, No. 6, 1728, 1976.

Precision direct-current stabilizer based on a P-136 stabilizer. V. Yu. Galkin, No. 5, 1571, 1976.

Regulated current source based on industrial thyristor converters. V. D. Dvornikov, S. T. Latushkin, V. A. Rezvov, L. I. Yudin, and A. K. Ginzburg, No. 2, 591, 1976.

7.6.1. High-Voltage Power Supplies

High-frequency stabilized high-voltage power supply. G. P. Petin, No. 4, 564, 1958.
A high-tension rectifier with a controlled output voltage. A. N. Bukin and M. M. Filippov, No. 2, 318, 1959.
A regulated 80-kV high-voltage supply. V. V. Polivanov, A. V. Iz"yurov, and N. I. Pyatakov, No. 5, 785, 1959.
A traveling-wave cascade voltage multiplier. G. A. Vasilev, No. 5, 773, 1959.
New types of electrostatic generators — induction and triboinduction. G. E. Levin, No. 5, 779, 1959.
Ripple compensation in high-tension rectifiers used with spectrometric equipment. L. S. Gorn and B. I. Khazanov, No. 6, 946, 1959.
A power pack for an electron microscope type UÉMV-100. V. V. Polivanov, V. V. Il'in, A. V. Iz"yurov, R. V. Pogudina, and N. I. Pyatakov, No. 5, 839, 1960.
A portable high-voltage supply. V. I. Mikhailov, No. 5, 806, 1960.
Stabilization of a high-voltage electrostatic generator by means of a cathode-ray tube. N. S. Solov'ev, No. 5, 814, 1960.
Adjustable dummy load. V. I. Vishnevskii and Yu. A. Grits, No. 3, 553, 1963.
A ±250-kV heavy-duty regulated high-voltage supply. Yu. A. Karzhavin, Yu. V. Kulikov, N. I. Malashkevich, D. V. Rakitskii, and V. N. Ramzhin, No. 1, 117, 1965.
A high-voltage transistor regulator for photomultipliers. M. K. Efimchik, I. M. Kaplan, and S. S. Shushkevich, No. 3, 709, 1965.
A controlled low-power high-voltage supply. L. G. Gol'denberg and A. A. Denisov, No. 4, 987, 1966.
A regulated power supply for image converters with output-voltage control. V. V. Korobkin, L. P. Malyavkin, and M. Ya. Shchelev, No. 3, 657, 1966.
A photomultiplier power supply with a contactless regulator. M. K. Efimchik, I. M. Kaplan, and S. S. Shushkevich, No. 4, 991, 1966.
Improvement of the stability of the output voltage of VS-22 industrial regulated rectifiers. O. F. Afonin and V. V. Filippov, No. 1, 224, 1967.
Heavy-duty voltage regulator for physics apparatus. A. A. Glazov and M. M. Semenov, No. 3, 591, 1967.
Regulated transistor 1-1.5-kV dc-to-dc converter. M. B. Leitman and R. K. Pakhlavuni, No. 4, 850, 1967.
High-voltage regulator for an electromagnetic separator. S. M. Naftulin, No. 1, 155, 1967.
Stabilized high-voltage source for exciting photomultipliers. R. A. Orlov, No. 5, 1178, 1967.
Four-channel high-voltage supply with stabilization and adjustment in the 5-25-kV range. N. S. Glagoleva, A. T. Matyushin, V. T. Matyushin, R. Firkovskii, M. M. Khachaturyan, and I. V. Chuvilo, No. 2, 397, 1968.
Bipolar high-voltage source with frequency conversion. N. S. Glagoleva, A. T. Matyushin, V. T. Matyushin, R. Firkovskii, and M. N. Khachaturyan, No. 5, 1156, 1968.
Transistorized high-voltage supply. P. E. Molotov, M. P. Men'shikh, and V. A. Mednikov, No. 6, 1437, 1968.
Adjustable low-power high-voltage supply. L. G. Gol'denberg, A. A. Denisov, and V. S. Nagornyi, No. 6, 1439, 1968.
Stable voltage sources up to 150 kV. A. M. Gulyi, M. I. Tregubov, and O. V. Meleshko, No. 6, 1529, 1969.
Increase of the dielectric strength of insulator joints. V. K. Bocharov, S. I. Solodovchenko, G. A. Silenon-Bel'skii, and A. G. Dikii, No. 3, 779, 1969.
Pulsed supply of photomultipliers. I. V. Sanin, N. G. Ivchenko, G. N. Markov, and S. V. Samylov, No. 1, 185, 1970.
Improved ÉRA-M-015 block for supplying an electron-optical converter. V. A. Mishin, No. 6, 1725, 1970.
High-voltage regulated power supply. V. V. Korbkin, Yu. N. Serdyuchenko, and M. Ya. Schelev, No. 2, 631, 1970.
Electronic stabilizer for high voltages. I. F. Kalinkevich, V. M. Lavrov, and I. T. Serenkov, No. 4, 1152, 1970.

Thyristor voltage stabilizer for a 40-kV modulator. A. M. Kozodaev and N. V. Lazarev, No. 4, 1060, 1970.

Miniature high-voltage source with stabilization and control in the 10-30-kV range. I. M. Divil'kovskii, D. V. Kovalevskii, L. V. Kulakov, and A. L. Shakhnovskii, No. 2, 512, 1970.

Bipolar stabilized rectifier with a rated voltage of 5 to 70 kV. U. A. Arifov, A. D. Belyaev, G. Z. Galyamov, V. I. Kogan, V. P. Pikul', and A. M. Usmandiyarov, No. 3, 841, 1973.

Compact stabilized power supply for a photoelectron multiplier having the voltage range 0.8 to 2.2 kV. A. P. Mel'nikov and B. V. Osyka, No. 1, 192, 1973.

A high-voltage current stabilizer based on standard blocks. E. L. Mikhailov, O. N. Kopanets, and A. R. Kukudzhanov, No. 5, 1607, 1973.

A compact power supply for a photoelectron multiplier and a laser. V. K. Piskarev and S. P. Stefanov, No. 1, 303, 1974.

Transistorized high-voltage stabilizer. V. V. Dolgikh and V. I. Dolgikh, No. 1, 198, 1975.

High-voltage power supply for low-power x-ray tubes. E. L. Kantor, No. 3, 887, 1975.

Power-supply block of a photoelectron multiplier with automatic control of the high voltage. V. V. Zaitsev and B. N. Belov, No. 5, 1513, 1975.

Compact regulated photomultiplier power supply using a piezoelectric transformer. A. A. Tyshko and V. N. Baryshnikov, No. 4, 1185, 1975.

An electrostatic generator with a conducting charge transporter. L. I. Ryabov and V. D. Mikhailov, No. 1, 174, 1976.

IVN-100 high-voltage source. M. I. Tregubov, A. M. Gulyi, and E. M. Varaksin, No. 4, 1243, 1976.

Stabilized high-voltage source. V. G. Volkov and M. M. Shtein, No. 5, 1449, 1976.

High-voltage dc stabilizer. V. V. Kruglov, No. 6, 1726, 1976.

High-voltage output stage for a potentiostat. N. A. Serdyukov, No. 3, 809, 1976.

Device for slow turn on and turn off of a high-voltage power supply. G. Yu. Besednov and A. G. Leshchinskii, No. 3, 803, 1976.

Power-supply block for ion source with electron bombardment. V. M. Akimov, A. I. Volkov, and L. Yu. Rusin, No. 5, 1586, 1976.

Stable compact power-supply block for a photoelectron multiplier. S. R. Lemzyakov and A. K. Sheremet'ev, No. 5, 1447, 1976.

7.6.2. Power Supplies for Electromagnets

A current stabilizer for a precision mass spectrometer. V. P. Afanas'ev, No. 1, 64, 1958.

Current regulator for an electromagnet. O. P. Revokatov and E. F. Nasedkin, No. 6, 1169, 1961.

Transistorized adapter for stabilizing the current of high-power electromagnets. V. P. Yakushev, No. 5, 1015, 1961.

Power supply for the electromagnet of the 7-BeV proton synchrotron. N. A. Monoszon, A. M. Stolov, M. A. Gashev, F. M. Spevakova, A. Kh. Yavno, E. V. Kornakov, F. M. Kulakov, V. P. Nadgornyi, and E. G. Gorshkova, No. 4, 643, 1962.

Operation of the 7-BeV proton synchrotron power supply in the initial period. I. F. Kleopov, S. P. Lagin, I. S. Okorokov, and N. V. Lazarev, No. 4, 649, 1962.

Transistorized current stabilizer for an electromagnet. B. F. Anufriev, S. B. Dokhnovskii, B. G. Zhurkin, B. D. Kopylovskii, and N. A. Penin, No. 1, 130, 1962.

Current stabilization in magnets of laboratory devices. V. A. Zagulin and B. A. Mamyrin, No. 1, 242, 1964.

Precision electromagnet current stabilizer. O. P. Revokatov and S. Sh. Akhmedov, No. 1, 219, 1965.

Field stabilizer for laboratory electromagnets. A. N. Vetchinkin, Yu. S. Karimov, and I. F. Shchegolev, No. 1, 184, 1965.

Magnetic field stabilization and sweep utilizing a "drift-free" amplifier. A. P. Korolyuk and L. Ya. Matsakov, No. 5, 1248, 1965.

Semiconductor stabilized current regulator for an electromagnet. V. M. Naumenko and B. G. Rudenko, No. 2, 399, 1968.

Stabilized magnet power supply. I. F. Kalinkevich, No. 5, 1275, 1968.

Current regulator of a mass-spectrometer electromagnet. Yu. V. Bezmaternykh and B. B. Leporskii, No. 6, 1433, 1968.
Semiconductor current regulator for supplying an electromagnet. O. Ya. Shimkin, Yu. P. Petrov, and V. F. Ryabov, No. 6, 1429, 1968.
Variable current stabilizer for 500 A. G. D. Porsev and V. N. Slyusar,, No. 5, 1233, 1969.
Electromagnet current stabilizer. M. M. Karliner, B. V. Levichev, A. S. Medvedko, and N. V. Shustrov, No. 5, 1228, 1969.
Electromagnet current stabilizer. V. E. Lyapukhov, G. V. Ostashov, and O. P. Revokatov, No. 5, 1231, 1969.
Magnetic-field stabilizer based on paramagnetic resonance. B. F. Alekseev and B. E. Sobotkovskii, No. 5, 1225, 1969.
High-power stabilized thyristor rectifier. A. A. Arzumanov, S. S. Batalin, G. A. Bykov, B. A. Volkov, and V. F. Ezerskii, No. 4, 1157, 1970.
500-A stabilized current source for superconducting solenoids. A. A. Voronin, V. N. Lunin, P. A. Cheremnykh, and V. I. Sharapov, No. 4, 1155, 1970.
Power supply system for the 100-cm liquid hydrogen bubble chamber electromagnet. B. D. Omel'chenko, No. 5, 1409, 1970.
Stabilized thyristor converter with digital control. O. A. Gusev, S. Ya. Kolesov, and A. A. Tunkin, No. 1, 142, 1972.
Stabilized current source based on a UIP-1 unit. V. R. Fedorov, No. 6, 1884, 1972.
Stabilized current source for supplying superconducting solenoids. V. I. Voronin, No. 5, 1475, 1972.
Device for stabilizing the current of a superconducting solenoid. Yu. F. Kiselev, No. 5, 1478, 1972.
Stabilization of the magnetic field of image converters. K. L. Mench, G. G. Petrov, and V. G. Tokmakov, No. 4, 1169, 1972.
Electromagnet-current stabilizer. V. I. Lomakin, I. F. Kochura, M. I. Matrosov, and V. V. S'edin, No. 4, 1172, 1972.
Current stabilizer for the electromagnet of a nuclear magnetic resonance spectrometer. B. S. Romanov, No. 1, 168, 1972.
Controlled current stabilizer for 1000 A. V. F. Lomovtsev, F. S. Frantsishko, I. I. Brodskii, V. Ya. Pakhomov, and Yu. F. Dushin, No. 1, 336, 1973.
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8.3.1. Manometers and Vacuum Gauges

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10. OPTICS

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Installation for atomic-absorption analysis with an ac arc source. V. P. Ivanov, I. I. Fishman, and I. S. Fishman, No. 3, 897, 1973.

A ten-channel polychromator for studying the shape of the spectral lines of a nonstationary plasma. S. V. Antipov, M. V. Nezlin, E. N. Shezhkin, A. S. Trubnikov, and I. F. Khanov, No. 3, 852, 1974.

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Installation for investigation of two-photon absorption spectra. V. I. Bredikhin, No. 5, 1555, 1975.

10.3.5. Measurement in Polarized Light

Photoelectric birefringence meter. V. R. Regel', and G. A. Dubov, No. 6, 816, 1958.

A photoelectric spectropolarimeter for measuring the rotation of the light-polarization plane in crystals. Z. B. Perekalina, G. D. Shnyrev, A. V. Mirenskii, V. I. Permogorov, and V. A. Kizel', No. 6, 1474, 1965.

Polarizer for the infrared region. S. N. Baranovskii, D. D. Berezikov, and L. L. Mendrin, No. 4, 930, 1967.

The ZÉP66 automatic polarimeter. L. V. Ksanfomaliti, No. 2, 391, 1967.

Instrument for measuring the natural optical activity and Faraday effect in the infrared region. V. A. Kizel', V. M. Kostrovskii, and V. N. Shamraev, No. 1, 169, 1967.

Rotating analyzer of elliptically polarized light. A. I. Popov and E. D. Protsenko, No. 3, 680, 1968.

Optical properties of selenium polarizers. É. É. Klotin'sh, V. K. Petrov, and I. A. Feltyn', No. 6, 1829, 1972.

Installation for studying circular dichroism. N. I. Mel'nikov, V. A. Khramtsov, and R. A. Zhitnikov, No. 1, 240, 1973.

An infrared-radiation polarizer. A. M. Bogomolov and V. M. Pankratov, No. 3, 982, 1973.

An automatic ellipsometer. A. L. Dmitriev and V. A. Trofimov, No. 6, 1792, 1973.

Broading the working spectral range of the ORD-UV-5 spectropolarimeter of the JASCO firm to 2.3 μ. Yu. N. Chirgadze and S. Yu. Ven'yaminov, No. 5, 1577, 1971.

A photoelectric spectropolarimeter with a two-channel signal-storage system. G. V. Troitskii and I. V. Generalov, No. 4, 1293, 1973.

Measurement of the degree of polarization for Rayleigh scattering of light in gases. E. Yu. Korableva and F. I. Panchev, No. 6, 1934, 1975.

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Visualization of low-contrast defects from their polarizing capacity. V. S. Chudakov and B. N. Grechushnikov, No. 5, 1567, 1975.

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Measurement of the polarization of low-intensity light fluxes in a photon-count regime. A. P. Balatsyuk, V. A. Novikov, and V. G. Fleisher, No. 1, 208, 1976.

Measurement of weak polarization of atomic fluorescence. A. P. Bryukhovetskii and R. V. Orlov, No. 6, 1778, 1976.

Infrared compensation phasemeter. V. M. Artemov, Zh. Zhelkobaev, V. V. Kalendin, V. I. Kukhtevich, R. I. Mukhtarov, and V. I. Prygunov, No. 2, 537, 1976.

10.3.6. Measurement of Luminescence and Fluorescence

An experimental model of a phase fluorometer. A. M. Bonch-Bruevich, I. M. Karazin, V. A. Molchanov, and V. I. Shirokov, No. 2, 231, 1959.

A multi-frequency phase fluorometer with double frequency changing. S. F. Kilin, G. P. Prosin, and I. M. Rozman, No. 2, 234, 1959.

Fluorometry at low chopping frequencies. A. M. Bonch-Bruevich and V. P. Kovalev, No. 2, 227, 1959.

A photoelectric method for measuring the degree of polarization of luminescence. V. N. Vishnevskii and A. N. Shibistyi, No. 6, 1158, 1963.

Measurement of the photoluminescence attenuation time by means of an electronic shutter. V. I. Gribkov, No. 6, 1192, 1963.

Measurement of the absolute light yields of phosphors. M. I. Épshtein and L. E. Svyatova, No. 5, 961, 1963.

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A simplified photoelectric fluorometer. V. N. Smorchkov and A. N. Nikitina, No. 3, 567, 1963.

Method of statistical recording of luminescence spectra at the "single-electron level." T. A. Kovaleva, A. E. Melamid, A. N. Pisarevskii, I. V. Reznikov, and S. S. Shushkevich, No. 2, 398, 1965.

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An attachment to the PRS device for studying the inertial properties of cathode phosphors. Yu. V. Voronov and A. G. Ovchinnikov, No. 4, 992, 1965.

Instrument for studying the spectral and kinetic characteristics of luminescence with electron excitation. É. D. Aluker, I. S. Tomkus, and S. A. Chernov, No. 4, 958, 1968.

Apparatus for investigating the electroluminescence and sonoluminescence of liquids. P. I. Golubnichii, V. D. Goncharov, A. N. Lukin, and Kh. V. Protopopov, No. 4, 1072, 1969.

Study of photoluminescence of crystals. V. L. Kuz'min, V. V. Vasilenko, and V. K. Bazhenov, No. 2, 488, 1969.

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Suppression of scattered light in the recording of luminescence spectra. M. U. Belyi, N. G. Musienko, and B. A. Okhrimenko, No. 5, 1508, 1972.

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Measurement of the luminescence decay time according to the amplitude–frequency method. M. U. Belyi, N. G. Musienko, B. A. Okhrimenko, and A. I. Sharapa, No. 4, 1202, 1973.

Use of a photoelectron multiplier operating in the logarithmic mode for the investigation of the decay kinetics of luminescence. V. V. Bacherikov, V. E. Kagain, Yu. A. Makarov, Yu. N. Nikolaev, and V. M. Tarasov, No. 3, 900, 1973.

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A laboratory spectrofluorimeter for free-film specimens. V. I. Anisimov, T. N. Zhuchkova, O. N. Karpukhin, I. V. Krinskii, S. M. Petukhov, and A. A. Khokhlov, No. 5, 1429, 1974.

An apparatus for measuring the characteristics of cathodoluminescence screens and electron-sensitive photographic materials. N. P. Kupreichik and K. G. Predko, No. 5, 1497, 1974.

Spectrofluorimeter based on a DMR-4 monochromator. V. A. Smirnov and V. B. Nazarov, No. 3, 995, 1975.

Stroboscopic installation for recording the decay curve of the luminescence of activated crystals and glasses. A. R. Kangro, Ya. É. Kariss, and V. A. Sevast'yanov, No. 4, 1183, 1976.

10.3.7. High-Speed Photography

Modern high-speed photography. (A survey). G. L. Shnirman and A. S. Dubovik, No. 5, 691, 1960.

On the projection of photographs taken by the SFR high-speed recording camera. V. V. Garnov and A. S. Dubovik, No. 5, 833, 1960.

Camera RKS-1 for high-speed cinematography. S. M. Provornov and O. F. Grebennikov, No. 6, 961, 1959.

Electronic photographic recorder. N. N. Lebedev and I. Sh. Model', No. 1, 171, 1962.

Use of N102 oscillographs for line and intensity modulation on motion picture film. G. A. Andreev and V. P. Khrulev, No. 5, 1051, 1962.

Synchronizing and speed control systems for raster motion picture cameras using a mirror scanner. A. M. Andreev, A. A. Bolotov, and A. A. Lukashev, No. 3, 509, 1963.

Time tie in of high-speed photographs with electrical quantities. I. M. Zolototrubov, I. T. Skoblik, A. G. Tolstolutskii, and V. N. Zhukov, No. 4, 1242, 1970.

Modernization of the high-speed SFR-RM raster unit. A. S. Dubovik, N. M. Sitsinskaya, N. M. Model', N. A. Dranovskii, and A. G. Medvedev, No. 1, 329, 1971.

Attachment to the SFR streak photography unit. A. S. Dubovik, N. M. Sitsinskaya, V. V. Garnov, N. M. Model', N. A. Dranovskii, and A. G. Medvedev, No. 1, 330, 1971.

Streak camera in the millisecond range. A. I. Zakharov, V. V. Koretskii, and V. G. Nikolaevskii, No. 3, 944, 1971.
The use of lasers for high-speed motion picture photography of fast processes. S. V. Evdokimov, E. V. Nilov, and A. A. Chertkov, No. 5, 1528, 1973.
Multiframe ultrahigh-speed Schlieren photography in a ruby laser beam. Yu. A. Zakharenkov and A. S. Shikanov, No. 5, 1445, 1974.

10.3.8. Parts of Optical Instruments

Bicylindrical objective for spectral time scans with the aid of an electron-optical intensifier. G. E. Smolkin and A. V. Titov, No. 2, 311, 1963.
Time resolution of optical lenses for investigation of subpicosecond processes. E. M. Gordeev and S. D. Fanchenko, No. 2, 533, 1976.
Manufacture of cylindrical metal mirrors. V. O. Losev and N. N. Ryzhov, No. 5, 1261, 1969.
Fabrication of miniature spherical mirrors. É. G. Nikolova, No. 3, 900, 1976.
Use of a light duct in the optical scheme of a stream camera. A. P. Gagarin and V. V. Druzhinin, No. 3, 972, 1973.
Modified Babinet–Soleil compensator. I. I. Afanas'ev, B. E. Mikhailov, and N. D. Nedashkovskaya, No. 4, 1161, 1976.
A focusing prism raster. A. Z. Grasyuk, V. F. Efimkov, and V. G. Smirnov, No. 1, 212, 1976.
A lightguide for transmission of radiation from a point light source onto the entire photoelectron multiplier. B. V. Osyka, No. 2, 573, 1975.
Buffing lightguides and viewing windows made of plastics. N. S. Shatlovskaya, No. 1, 250, 1971.
Comparison of light pipes with smooth and mosaic input ends. V. P. Marinets, L. S. Melkhisedekov, and B. V. Osyka, No. 6, 1810, 1976.
Plastic of increased transparency. M. I. Frolova, I. V. Chekmodeeva, and A. G. Khabakhpashev, No. 4, 943, 1967.
Vibration-proof optical contact using epoxy resin. G. S. Dragun, No. 4, 946, 1967.
Method for joining optical quartz parts with polished surfaces. V. M. Orlov and I. A. El'kina, No. 5, 1259, 1969.
Silicone compounds for optical contact. R. P. Antonov, D. Ya. Zhinkin, G. K. Korneeva, N. E. Rodzevich, E. A. Semenova, V. N. Timoshina, D. A. Uklonskii, and V. S. Chukin, No. 6, 1577, 1969.
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Vacuum stage for use in optical studies at low temperatures. V. A. Bokov, No. 4, 667, 1960.
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Choice of material for the windows of chambers for investigating discharge in gases under pressure. Yu. P. Usov and G. A. Vorob'ev, No. 2, 360, 1963.
Pressure chamber for a Fabry-Perot interferometer. M. S. Kashtan and T. N. Khlopina, No. 2, 414, 1964.
Illuminator for optical cryogenic installations. A. M. Maznitsa and I. P. Derbenev, No. 5, 1453, 1970.
Windows for interferometric vessels. Yu. L. Serov and I. P. Yavor, No. 3, 895, 1976.
The process of making barium fluoride and calcium fluoride windows vacuum tight. L. P. Shishatskaya, No. 1, 275, 1976.
An optical table with magnetic riders. Yu. I. Kolesov, V. N. Listvin, V. I. Mar'in, A. Ya. Smirnov, V. V. Storozhev, and A. A. Khokhlov, No. 4, 1293, 1973.
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Optical resonator using cylindrical mirrors with adjustable radius of curvature. V. M. Klement'ev and Yu. D. Kolomnikov, No. 5, 1240, 1965.
Alignment of multimirror laser. A. Z. Grasyuk and I. G. Zubarev, No. 1, 162, 1966.
Ball-joint for the adjustment and fixing of mirrors and windows of a gas laser. V. P. Zaitsev, No. 3, 736, 1966.

Use of glass corrugations and cold cathodes in laser discharge tubes. A. Ya. Leikin, A. I. Samoilovich, and V. S. Solov'ev, No. 1, 176, 1968.
Internal mirror mount for gas lasers. V. P. Zaitsev, No. 2, 439, 1968.
Tunable optical resonator with nearly plane-parallel mirrors. V. N. Lugovoi, K. F. Shipilov, and T. A. Shmaonov, No. 5, 1459, 1970.

10.4. Spectral Optical Instruments

10.4.1. Interferometers

Sensitivity of a multiple-beam interferometer. A. I. Akimov, G. I. Kromskii, and I. V. Shokov, No. 5, 1098, 1964.
A system for precise 500-mm translation of the mirror of a Michelson interferometer. G. G. Petrash and V. V. Sizov, No. 3, 676, 1965.
Interference mirrors of alternating layers of lead oxide and cryolite. Yu. V. Naboikin and N. L. Kramarenko, No. 2, 442, 1965.
Fabry-Perot interferometer with electromechanical scanning system. F. Ya. Ragimov and V. G. Koloshnikov, No. 4, 939, 1967.
Fabry-Perot interferometer with remote control. I. V. Skokov and G. I. Kromskii, No. 4, 941, 1967.
An all-metal vacuum seal gasket. S. I. Gendel', V. N. Karpov, and L. E. Levina, No. 2, 449, 1967.
Nonadjustable scanning Fabry-Perot interferometer. V. P. Koronkevich, D. A. Solomakha, and A. K. Toropov, No. 5, 1211, 1968.
Tunable Fabry-Perot interferometer for photoelectric measurements. V. N. Lisitsyn, No. 1, 174, 1969.
Composite interferometer with an electromechanical scanning system. F. Ya. Ragimov and V. G. Koloshnikov, No. 1, 159, 1969.
Change of difference in phase between wavefronts in reverse-circle shift interferometers. V. A. Komissaruk and V. I. Yanichkin, No. 1, 170, 1969.
Differentiating Fabry-Perot interferometer. V. G. Koloshnikov, V. I. Lapshin, and F. Ya. Ragimov, No. 1, 205, 1970.
High-speed measurement of spectral line widths and shifts with the Fabry-Perot interferometer. G. G. Dolgov-Savel'ev and V. I. Sekerin, No. 1, 209, 1970.
Automatic compensation of interferometer vibration. V. A. Bazylenko, V. E. Prokopenko, and G. S. Starkov, No. 6, 1756, 1970.
Hydropneumatic drive for the scanning system of a Fabry-Perot spectrometer. V. A. Rozuvanova, No. 2, 584, 1971.
Photoelectric stabilized interferometer for the investigation of amplitude—frequency responses of piezotransducers. V. L. Vlasov and A. N. Medvedev, No. 1, 206, 1972.
Apochromatic path-difference compensator for automatic interferometers. K. A. Khalilulin and I. Sh. Étsin, No. 2, 501, 1972.
A simplified version of shift interferometry. N. G. Vlasov and Yu. P. Presnyakov, No. 5, 1535, 1973.
Interference pattern stabilization for a universal Fabry-Perot spectrometer. G. I. Stotskii and V. M. Shustryakov, No. 6, 1798, 1974.
A homodyne interferometer with indication of reversal. V. P. Zakharov and V. P. Tychinskii, No. 4, 1220, 1975.
Twin-wave vibration-resistant interferometer. Yu. G. Kalinin, V. A. Skoryupin, and Yu. I. Shestakov, No. 3, 916, 1975.
The SI-1 Fabry-Perot scanning interferometer. V. A. Ageikin, V. G. Koloshnikov, A. E. Davydov, N. N. Kastorskaya, and Ya. E. Titlyanov, No. 5, 1651, 1975.
The SKI-1 scanning Fabry-Perot compound interferometer. V. A. Ageikin, V. G. Koloshnikov, A. E. Davydov, N. N. Kastorskaya, and Ya. E. Titlyanov, No. 5, 1651, 1975.
A hydropneumatic drive for digital scanning of a Fabry-Perot mirror. V. M. Arkhipov, M. A. Gershun, and V. A. Rozuvanova, No. 1, 231, 1975.
Improvement of accuracy of Zeiss UFPS scanning Fabry-Perot interferometer. Yu. F. Igonin and Yu. S. Martyushov, No. 1, 305, 1975.
Accuracy improvement in measuring small fractions of an interference fringe. V. V. Rybakov, A. P. Smakhtin, A. K. Subbotin, A. A. Temeev, and A. V. Chernetskii, No. 1, 228, 1975.
Photoelectric devices for homing on an achromatic interference band. Yu. M. Golubovskii, I. V. Novikova, L. N. Pivovarova, and G. G. Smirnova, No. 6, 1926, 1975.

Interferometer with automatic data acquisition for measurement of the dependence of the refractive index of the gas on pressure. G. A. Shelkov and I. Shyuler, No. 5, 1558, 1975.

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New interference dividing prism. A. I. Kartashev, T. A. Nessler, and I. Sh. Étsin, No. 4, 1163, 1976.

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Measurement of the distortions of interference bands. A. G. Tolstolutskii and I. M. Zolototrubov, No. 3, 895, 1973.

10.4.2. Spectrometers

Flash-photolysis spectrophotometers (review). E. N. Tverdokhlebov, No. 3, 621, 1972.

Flash-photolysis spectrophotometer. Yu. V. Morozov, A. K. Savenko, and E. N. Tverdokhlebov, No. 3, 847, 1972.

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A double-beam spectrometer for the investigation of spectra of combination scattering of light. V. A. Zubov, G. G. Petrash, and M. M. Sushchinskii, No. 5, 819, 1959.

The necessity of protecting spectrographs from dispersed daylight during long exposures. N. K. Bel'skii, No. 6, 988, 1959.

Monochromators for microspectrophotometers. L. S. Agroskin and N. V. Korolev, No. 4, 727, 1963.

Application of direct-viewing mirror systems in spectroscopy. E. T. Antropov, No. 5, 1013, 1961.

Causes of the nonlinearity of the spectrophotometer scale and methods for eliminating them. P. L. Klimenko, No. 1, 169, 1964.

A spectrophotometer recording small differential absorptions. A. Yu. Borisov and E. N. Mokhova, No. 2, 411, 1964.

Spectrograph with mirror scanning. V. A. Bashilov, No. 2, 435, 1965.

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Simplified "phase" spectrophotometer and its application in research on small specimens in the 0.4 to 1.0 μ range. I. A. Palitsyna, No. 6, 1407, 1967.

Temperature dependence of the transmission coefficient of a sample used in a two-beam spectrometer. G. V. Yukhnevich, No. 3, 736, 1969.

Light shutter for evacuated spectrometry apparatus. G. A. Katrich and D. T. Tarashchenko, No. 1, 162, 1969.

Synchronization circuit for a spectrograph with mirror scanning of the spectrum. I. V. Babin, G. I. Kromskii, and M. A. Plyshevskii, No. 4, 1081, 1969.

Light divider for a double-beam spectrophotometer. V. N. Larionov, No. 5, 1263, 1969.

Correction system for the zero reference during the recording of differential spectra. S. I. Aksenov, V. N. Verkhoturov, and Yu. N. Kozhukhar,, No. 1, 211, 1970.

Combined modulator and light divider for a dual-beam spectrophotometer. A. I. Gorelik, A. V. Fal'tsman, and S. G. Shvedov, No. 6, 1765, 1971.

Elimination of the "null" error in spectrophotometers by the method of double modulation of the source flux. B. S. Vorob'ev and A. I. Kuznetsov, No. 5, 1605, 1972.

Spectrophotometric installation with a detector in the individual-photon-count operating mode. E. A. Andreeshchev, S. F. Kilin, and Yu. P. Kushakevich, No. 2, 529, 1973.

A highly sensitive twin-wave differential spectrophotometer. V. N. Verkhoturov, V. A. Kalachev, and A. B. Rubin, No. 4, 1151, 1974.
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A photoelectric scintillation spectrometer for plasma vacuum UV emission. A. A. Vekhov, R. A. Nikolaev, and V. B. Rozanov, No. 6, 1789, 1974.
Automatic spectrograph based on the UM-2 monochromator. V. I. Kiis, U. Kh. Nymm, A. Ya. Pae, and V. A. Reeben, No. 4, 669, 1960.
Improved automatic spectrophotometer based on a UM-2 monochromator. V. I. Kiis and U. Kh. Nymm, No. 2, 465, 1969.
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Application of the fast automatic BDSF-1 spectrophotometer for the investigation of crystals. N. N. Fomichev, No. 3, 589, 1961.
Differential double-beam spectrophotometer based on spectrophotometer SF-2M. A. Yu. Borisov, R. N. Ivanovskii, and V. N. Larionov, No. 5, 1321, 1969.
An attachment for the SF-4 quartz photoelectric spectrophotometer for the investigation of absorption of light by crystals. S. V. Grum-Grzhimailo, K. P. Bondarenko, G. V. Klimusheva, No. 5, 676, 1958.
Measurement of the coefficient of reflection of metals with a SF-4 spectrophotometer. G. P. Skornyakov and M. M. Kirillova, No. 4, 671, 1959.
An attachment to the SF-4 spectrophotometer for measuring luminescence spectra. A. P. Kilimov, L. L. Nagornaya, and B. A. Zadorozhnyi, No. 3, 451, 1959.
An adapter for automatic measurements of absorption spectra by means of the SF-4 nonrecording spectrophotometer. P. A. Zagorets and G. G. Mikhailov, No. 2, 354, 1961.
Universal attachment for the SF-4 spectrophotometer. M. A. Katibnikov and S. V. Konev, No. 791, 1961.
An improved design of SF-4A and SFD-2 readout system. Yu. I. Kolesnikov and I. K. Baeva, No. 6, 1542, 1965.
A general-purpose phosphoroscope attachment to the SF-4 spectrophotometer. V. P. Bobrovich, E. A. Chernitskii, and S. V. Knoev, No. 2, 440, 1965.
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Modification of the SF-4 spectrophotometer for photographing reflection spectra of powders. V. A. Shvets and V. B. Kazanskii, No. 4, 999, 1966.
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A recording twin-wave spectrophotometer with a corrected zero line based on an SF-4 instrument. Yu. B. Vymorkov, E.I. Kotov, and I. L. Yatovt, No. 6, 1850, 1973.
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10.4.3. Infrared Spectrometers

The basic principles of recording spectra in infrared spectrophotometers (review). A. F. Mal'nev, M. P. Esel'son, and L. S. Kremenchugskii, No. 1, 1, 1958.
An analysis of the tracking system of double-beam infrared spectrometers. L. A. Gribov, No. 2, 249, 1958.
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10.4.4. Spectrometer Accessories

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11. MAGNETIC INSTRUMENTS

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11.1.2. Magnetic Systems of Accelerators

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Installation for measurement of magnetic susceptibility by the Faraday method. S. G. Osipova and V. N. Zhukov, No. 6, 1831, 1972.
Automatic scales for studying magnetic susceptibility. Yu. R. Kolesov, I. N. Ivleva, N. A. Zelenov, A. K. Tuflin, Yu. G. Borod'ko, and L. N. Gal'perin, No. 1, 265, 1973.
Automatic balance for measuring magnetic susceptibility. V. A. Antipin and Yu. V. Ergin, No. 2, 659, 1975.
An installation for investigating semimetals in pulsed magnetic fields of up to 900 kOe at low temperatures. N. B. Brandt, V. G. Karavaev, E. A. Svistova, and I. E. Yarembash, No. 2, 547, 1974.
Piezoinductive magnetic-induction meter. T. V. Persiyanov, G. I. Rekalova, V. D. Kharlampliev, and A. A. Shakov, No. 4, 1202, 1971.
Optimal configuration of the receiving coils of a vibration magnetometer. K. M. Polivanov, E. I. Kalugin, and A. I. Krivaksin, No. 5, 1503, 1971.
The aggregate of PVCh-1 and PVCh-2 permeammeters. A. F. Kugaevskii, V. I. Klimkovich, and N. N. Chernousova, No. 1, 306, 1974.
Measurement of the magnetic characteristics of thin ferromagnetic films. A. S. Mil'ner, T. A. Litovchemko, and L. N. Tatarinova, No. 1, 124, 1963.
Measurement of saturation magnetization of ferromagnetic materials as a function of temperature. V. E. Rode and R. Gerrmann, No. 1, 183, 1964.
Measurement of magnetization in strong pulsed magnetic fields by the Ponderomotor method. Yu. P. Zhegunov, A. M. Kadomtseva, and R. Z. Levitin, No. 3, 648, 1964.
Setup for measuring the magnetic characteristics of ferromagnets over a microscopic surface section approximately 1 μ^2 in size. G. S. Krinchik, G. M. Nurmukhamedov, and V. P. Zolotarev, No. 4, 890, 1964.
Use of ferroprobes for determining the magnetic hardness of thin ferromagnetic films. R. E. Ershov, É. K. Rodicheva, and Z. M. Volgina, No. 1, 185, 1964.
Observation of the domain structure of thin ferromagnetic films by means of the ÉM3 electron microscope. V. G. Pyn'ko, No. 1, 188, 1964.
Automatic torque magnetometer for measuring anisotropy constants of ferrites. K. M. Polivanov, E. I. Kalugin, and V. V. Gaiduchenko, No. 6, 1372, 1967.
Measuring magnetic anistropy in strong pulsed fields. R. Z. Levitin and B. K. Ponomarev, No. 3, 648, 1967.

Instrument for measuring the magnetic permability of ferrites. T. A. Sanina and N. N. Dmitrieva, No. 3, 712, 1968.

Miniature magnetizing device for producing a uniform alternating magnetic field. V. M. Mogilevskii, No. 5, 1224, 1968.

Residual magnetization gauge. G. F. Afanas'ev, M. I. Belyi, A. A. Os'minin, Yu. K. Chernov, A. P. Luchnikov, and L. Yu. Ivanov, No. 5, 1545, 1970.

Automatic rotary magnetometer for measuring small torques. E. S. Mushailov, V. G. Pyn'ko, and A. A. Sukhovskii, No. 3, 895, 1970.

Apparatus for studying the magnetic properties of cylindrical ferromagnetic films. M. V. Chetkin, G. M. Nurmukhamedov, and V. A. Drachev, No. 2, 572, 1970.

An H_c meter—an instrument for measuring the anisotropy field of cylindrical thin magnetic films. R. E. Ershov and V. L. Lifshits, No. 4, 1288, 1972.

Continuous measurement of the coercive force. A. B. Vaganov and V. V. Zav'yalov, No. 3, 876, 1972.

Magnetometer for determining the magnitude and dirdction of the magnetization in anisotropic crystals. A. N. Bazhan, A. S. Borouik-Romanov, and N. M. Kreines, No. 1, 261, 1973.

Strain-gauge anisometer for measurement of the energy constants of magnetic crystallographic anisotropy. S. P. Kuntsevich and V. P. Palekhin, No. 1, 259, 1973.

Instrument for determining axes of easy magnetization of ferromagnetic single-crystal balls. T. D. Zotov and R. Z. Sadykhov, No. 5, 1565, 1976.

Universal installation for studying pulsed magnetic reversal of magnetic films in the nanosecond range. O. S. Kolotov, T. Sh. Musaev, V. A. Pogozhev, and R. V. Telesnin, No. 5, 1527, 1976.

Direct method of determining the transthreshold susceptibility for excitation of spin waves in ferrites. M. A. Sigal, No. 1, 256, 1973.

A simple vibration magnetometer for the investigation of ferromagnets. K. M. Golant and V. G. Veselago, No. 4, 1241, 1975.

Observing the domain structure of thin magnetic films with the UÉMV-100 electron microscope. V. G. Pyn'ko, No. 6, 1534, 1965.

A device for studying the critical curves of thin ferromagnetic films. R. V. Telesnin and V. A. Yakovlev, No. 3, 724, 1965.

A vacuum magnetometer for studying ferromagnetic films. R. V. Telesnin, E. N. Rybak, and I. M. Saraeva, No. 3, 719, 1965.

Measuring the temperature dependence of the permeability of ferrites by means of coaxial lines. L. A. Davydov, No. 4, 944, 1965.

Magneto-optical method for oscillographic recording of hysteresis loops of thin magnetic films. N. G. Pak and S. V. Kan, No. 1, 126, 1963.

A superconducting magnetic system consisting of two solenoids with a vacuum working volume. B. V. Glasov, V. G. Kotenko, V. I. Kurnosov, G. G. Lesnyakov, G. T. Nikolaev, V. A. Merzlikin, Yu. V. Kholod, and V. B. Yuferov, No. 3, 982, 1973.

Installation for investigating the magnetoelastic properties of massive and film magnetic substances. V. A. Domyshev and N. I. Luzgin, No. 4, 1158, 1974.

Device for determining the crystallographic orientation of spherical ferromagnetic monocrystals. T. D. Zotov, No. 1, 221, 1966.

A device for investigating the susceptibility anisotropy of metals at ultralow temperatures. N. B. Brandt, No. 3, 473, 1960.

Measurement of the parameters of magnetized ferrite using a 36-I dielectric test set. E. B. Zal'tsman, No. 3, 407, 1958.

Measuring magnetostriction in strong pulsed magnetic fields. B. K. Ponomarev and R. Z. Levitin, No. 3, 708, 1966.

Measurement of magnetostriction at low temperatures with aid of super-conducting solenoid. V. I. Sokolov, No. 2, 396, 1967.

Pulse method of measuring photomagnetic suscepbility. B. I. Verkin and K. L. Dudko, No. 6, 1419, 1966.

Vacuum apparatus for magnetooptical investigations in the far infrared region of the spectrum. V. M. Naumenko, V. I. Fomin, and V. V. Eremenko, No. 5, 1201, 1967.

Simple magnetooptical equipment. A. B. Vaganov and D. B. Diatroptov, No. 6, 1751, 1970.

Magnetooptical microanalyzer. G. M. Nurmukhamedov and G. M. Khadzhimatov, No. 3, 969, 1972.

A magnetooptical installation for automatic recording of the magnetic characteristics of ferromagnets on surface microsectors in static magnetic fields. V. G. Gass and I. G. Saifulin, No. 5, 1552, 1973.

Stroboscopic magnetooptical installation for studying pulsed magnetic reversal of magnetic films. O. S. Kolotov, M. I. Lobachev, and V. A. Pogozhev, No. 1, 267, 1973.

Measurement of thermomagnetic effects in pulsed magnetic fields. N. G. Gluzman, No. 5, 1203, 1967.

An installation for measuring the magnetocaloric effect with time recording. V. M. Belova, V. I. Nikolaev, and V. M. Stuchebnikov, No. 1, 239, 1974.

Method for measuring diffusion coefficient by means of a self-oscillating quantooptical magnetometer. S. L. Votyakov and L. N. Novikov, No. 4, 1192, 1976.

On the magnetic properties of brass. A. A. Frantsuzov, No. 6, 1183, 1961.

Narrow-band measurement of nuclear absorption line width and magnetic field gradient. A. V. Kubarev, No. 3, 393, 1958.

A device for the measurement of nuclear moments by the method of magnetic resonance in molecular beams. A. G. Kucheryaev, Yu. K. Szhenov, Sh. M. Gogichaishvili, I. N. Leont'eva, and L. V. Vasil'ev, No. 6, 907, 1959.

12. MECHANICAL INSTRUMENTS

12.1. Instruments for the Study of Mechanical Properties

12.1.1. Deformation Tests of Solids

Determination of the elastic limit of metals at very low temperatures. N. M. Reinov and A. P. Smirnov, No. 1, 143, 1960.

Device for the investigation of creep in metals and the recording of its origin. A. A. Predvoditelev, No. 2, 372, 1961.

An instrument for measuring microhardness and metallographic analysis of materials in the presence of low-temperature deformation. I. A. Gindin and Ya. D. Starodubov, No. 6, 1498, 1965.

Apparatus for investigations into plastic strain in vacuum. A. V. Ashukin, I. M. Lyubarskii, and A. A. Guslyakov, No. 5, 1473, 1970.

Method of impulse stressing of crystals. V. V. Korshunov, F. D. Senchukov, and S. Z. Shmurak, No. 1, 261, 1971.

Instrument for micromechanical tests of solid materials. V. P. Alekhin, G. S. Berlin, A. V. Isaev, G. N. Kalei, V. A. Merkulov, V. N. Skvortsov, A. P. Ternovskii, M. M. Krushchov, G. D. Shnyrev, and M. Kh. Shorshorov, No. 4, 1265, 1971.

A cell for examining deformation effects in thin-film specimens. M. P. Volotskoi and V. I. Kaidanov, No. 5, 1503, 1974.

Highly sensitive inductive differential strain gauge with electric zero adjustment. I. A. Gindin, V. B. Rabukhin, and G. G. Chechel'nitskii, No. 6, 1501, 1966.

Remote instrument for measuring microhardness. V. M. Mikhailovskii, A. K. Malik, V. A. Stratienko, and A. P. Eres'ko, No. 5, 1612, 1972.

Devices for compensating atmospheric pressure in testing machines. I. A. Gindin, S. F. Kravchenko, Ya. D. Starodubov, and V. P. Lebedev, No. 5, 1547, 1972.

Method for creating anisotropic elastic deformations of single crystals. N. B. Brandt, N. Ya. Minina, and V. F. Keptya, No. 6, 1838, 1972.

Semiconductor strain transducer. I. P. Zhad'ko, V. A. Romanov, and B. K. Serdega, No. 5, 1544, 1972.

Recording a creep curve with a high resolution with respect to deformation and time. L. I. Danilenko, M. V. Zinov'ev, and V. A. Koval', No. 2, 585, 1973.

An instrument for examining very fast machinery. V. A. Mel' and Yu. Z. Kovalev, No. 6, 1807, 1974.

A positron-annihilation hardness meter. A. M. Belonogov, O. A. Kozhevnikov, I. A. Razov, and L. R. Ul'pe, No. 3, 924, 1974.

An electromechanical scanner. A. T. Vasilenko, V. M. Soroko, and N. S. Frolov, No. 4, 1211, 1974.

A meter for static and dynamic deformations, V. P. D'yakonov, A. G. Kalinenko, and A. K. Trubitsyn, No. 5, 1545, 1974.

A magnetic meter for measuring mechanical stresses. V. F. Dudin and V. G. Tsybinoga, No. 1, 306, 1974.

A film-type capacitative electromechanical transducer. E. I. Tokmakova, V. G. Evdokimov, and S. S. Sekoyan, No. 5, 1471, 1974.

Pressure—frequency transducer based on a relaxation oscillator with a tunnel diode as the sensing element. D. G. Ali-Zade, Yu. B. Leshchinskii, and Ya. G. Ali-Zade, No. 3, 836, 1976.

Water-cooling system fluid relay responding to fluid flow rate. E. A. Kolenko, No. 2, 566, 1976.

Polarization-optical mechanical-stress meter. A. E. Korotynskii, V. I. Kalemanov, and A. Ya. Nedoseka, No. 3, 934, 1976.

A three-crystal x-ray spectrometer for the investigation of the structural perfection of real crystals. M. V. Koval'chuk, É. K. Kov'ev, Yu. M. Kozelikhin, A. V. Mirenskii, and Yu. N. Shilin, No. 1, 236, 1976.

Instrument for examining torsional creep in metal under accelerator irradiation. L. N. Bystrov and A. V. Tsepelev, No. 6, 1853, 1976.

Instrument for measurement of rotatory hysteresis. Yu. A. Khimin, R. V. Lin'kov, G. G. Denisov, Yu. M. Urman, and V. A. Vyatkin, No. 6, 1781, 1976.

12.1.2. Dynamic Methods of Studying Mechanical Properties

Creation and use of large centrifugal fields. (review). V. M. Ponizovskii, No. 2, 247, 1968.

Stroboscopic tachometer. I. Sh. Libin, No. 2, 301, 1959.

Apparatus for measuring the moduli of elasticity and internal friction by the "combined oscillator" method. R. Z. Levitin, No. 2, 370, 1961.

Determining the dynamic mechanical properties of solid polymers. V. P. Volodin, No. 3, 555, 1961.

Measurement of dynamic mechanical properties of rubbers in frequency range 0.01 to 4000 cps. V. P. Volodin, S. P. Kabin, and E. V. Kuvshinskii, No. 4, 806, 1961.

The determination of the ultimate strength and the Young's modulus of small specimens at high temperatures. V. G. Bravinskii, M. V. Osipov, and A. F. Kozlov, No. 3, 552, 1961.

On the theory of vibration data transmitters with electrets. A. N. Gubkin, V. F. Sergienko, and N. M. Trofimenko, No. 2, 374, 1961.

Plotting of the resonance deformation curve for a piezoelectric vibrator. B. I. Pirozhkov, No. 3, 569, 1962.

Measurement of periodic magnetostriction deformations. V. E. Kuznetsov and V. U. Usatov, No. 3, 566, 1962.

Measurement of the density of solid bodies with a gradient tube. M. Ya. Kats, No. 1, 180, 1962.

An electromechanical harmonic analyzer. A. T. Vasilenko and Yu. N. Denisov, No. 6, 1079, 1963.

Device for studying the damping of low frequency torsional oscillations. R. I. Garber, I. A. Gindin, V. M. Stolyarov, G. G. Chechel'nitskii, and L. A. Chirkina, No. 3, 545, 1963.

Gas pendulum. P. F. Shakurov, No. 6, 1200, 1963.

Measurement of internal friction of solids. M. I. Abaev and M. I. Kornfel'd, No. 2, 416, 1964.

Device for measuring natural frequency and logarithmic decrement of vibrating systems. M. I. Abaev, No. 2, 419, 1964.

Apparatus for automatic recording of internal friction of metals. V. A. Melik-Shakhnazarov and I. A. Naskidashvili, No. 1, 190, 1967.

The measurement of the Young's and shear moduli and the internal friction of small specimens. V. N. Bykov and A. E. Fedorovskii, No. 1, 169, 1966.

Measuring high amplitudes of mechanical vibrations by the Moiré-band method. B. S. Davydov, No. 4, 889, 1967.

Miniature transducer for measuring small dynamic forces. V. I. Zarkhin, I. A. Levtov, and A. M. El'gard, No. 5, 1273, 1969.

Measurement of the internal friction due to high-frequency transverse oscillations in filamentary crystals. B. Ya. Pines, V. M. Andronov, and V. B. Rabukhin, No. 1, 187, 1969.

Use of mechanical resonant systems for physical measurements. A. A. Meier, No. 2, 574, 1970.

Torsion oscillator having a long period and a long relaxation time. V. B. Braginskii, V. I. Panov, V. G. Petnikov, and Yu. V. Khlyntsev, No. 6, 1791, 1971.

Low-frequency installation for measuring internal friction. E. V. Borisov, G. A. Vedenyapin, and L. V. Smirnov, No. 6, 1847, 1972.

Installation for studying the kinetic coefficients during the action of a dynamic load on a sample. E. V. Kozeev, V. P. Dragunov, and V. N. Kholyavko, No. 4, 1219, 1972.

Apparatus for the investigation of external static function in a controlled atmosphere and in vacuum. Yu. P. Toporov and V. P. Lazarev, No. 3, 471, 1959.

Friction between solids at high hydrostatic pressures. Yu. P. Toporov and B. V. Deryagin, No. 6, 992, 1960.

A device for investigating friction and wear at low temperatures in vacuum. N. N. Golego and É. A. Kul'gavyi, No. 4, 1266, 1973.

An installation for investigating the contact-mechanical properties of powdered materials under vacuum conditions. B. V. Deryagin, Yu. P. Toporov, and V. V. Shandor, No. 3, 857, 1974.

12.1.3. Properties of Liquids and Gases

Elasticity relaxometer for measurements of highly elastic deformations, strength and relaxation of colloidal systems. A. A. Trapeznikov, No. 3, 423, 1958.

Viscosimeter for studying liquids at temperatures to −150°C. Kh. M. Khalilov, No. 4, 573, 1958.

Device for measuring the turbulence in piston engines. E. S. Semenov, No. 1, 102, 1958.

Measurement of rapidly varying pressures in a gas. S. G. Zaitsev, No. 6, 811, 1958.

Apparatus for measuring the compressibility of liquids. G. P. Shakhovskoi, I. A. Lavrov, M. D. Pushkinskii, and M. G. Gonikberg, No. 1, 184, 1962.

Rheogoniometer with a freely suspended disk and continuous recording for structurized colloidal systems and polymer solutions. A. S. Morozov, G. G. Petrzhik, and A. A. Trapeznikov, No. 3, 562, 1962.

Apparatus for measuring the viscosity of a liquid under pressure. G. P. Shakhovskoi, I. A. Lavrov, M. G. Gonikberg, and Yu. A. Rumyantsev, No. 5, 975, 1963.

Low-temperature rotary elastoviscometer for thickened systems. A. A. Trapeznikov, A. S. Chebotarev, and A. S. Morozov, No. 3, 715, 1966.

Active damping of the oscillations of a model suspended in a stream. É. M. Drobyshevskii and S. I. Rozov, No. 4, 949, 1967.

Measurement of gas flow velocity by the electrical breakdown method. P. G. Zykov, A. M. Filatov, and P. E. Suetin, No. 4, 974, 1968.

Measurement of the thickness and profile of liquid films. I. A. Rogovaya, V. M. Olevskii, and N. G. Runova, No. 1, 189, 1968.

Determining the capillary constant of a liquid from the meniscus. D. V. Khantadze, Z. A. Chanturiya, É. G. Onikashvili, and T. G. Tsertsvadze, No. 1, 266, 1970.

RV-70 rotational viscosimeter for investigating structured liquids, V. D. Krutogolov, L. N. Igonova, and P. A. Ivanov, No. 2, 663, 1971.

ÉVIS-69S Electroviscosimeter for studying the viscous properties of non-Newtonian fluids. A. N. Sundukov and P. A. Ivanov, No. 3, 968, 1972.

Rotational VIR-70 microviscosimeter. A. N. Sundakov and P. A. Ivanov, No. 1, 301, 1972.

A pickup based on silicon strain-gauge resistors for measurement of small pressure differentials. G. R. Grek, N. F. Polyakov, and E. A. Samoletov, No. 4, 1271, 1973.

Installation for recording microdisplacements of a liquid at a stipulated point of the volume according to the tracking-raster method. S. N. Bazhenov and V. K. Ridiger, No. 1, 301, 1973.

The RÉVI-70 rotational rheoelectroviscosimeter. A. N. Sundukov, P. A. Ivanov, and S. N. Bisin, No. 4, 1294, 1973.

The ÉVI-68-AD electroviscosimeter for continuous measurement of viscosity in a stream. E. D. Devitsyn, No. 5, 1611, 1973.

An electroviscosimeter for high-temperature viscosity measurements. E. D. Devitsyn and P. A. Ivanov, No. 6, 1860, 1973.

Measurement of the specific extent of the interphase boundaries in a material. L. I. Skorobogat and L. G. Podobeda, No. 1, 270, 1974.

Measurement of variable pressure by tunnel diode. V. M. Smotriskii and F. S. Savitskii, No. 5, 1519, 1974.

Piezometer for measuring the volume of chemically active substances. I. N. Makarenko, V. A. Ivanov, and S. M. Stishov, No. 3, 862, 1974.

Measurement of the viscosity of media by means of shear vibrations of plane piezoresonators. A. P. Borovikov, No. 1, 223, 1976.

Consideration of deformation of the piezometer in investigating p−v−T properties of liquids and gases. A. I. Porkhun, A. B. Tsaturyants, and L. D. Porkhun, No. 5, 1539, 1976.

Capillary piezometer with opticomechanical readout. A. P. Miroshnikov and V. N. Razumikhin, No. 2, 556, 1976.

Pulsed gasdynamic device of ring type. E. I. Skibenko and V. B. Yuferov, No. 4, 1200, 1976.

Unit for measuring gas flow rate by the multiple electric breakdown method. P. I. Bogdanov, P. G. Zykov, and P. E. Suetin, No. 2, 544, 1976.
Two-component silicon strain-gauge device for aerodynamic tests on thin assemblies. L. N. Bystrov and A. V. Tsepelev, No. 6, 1854, 1976.
Measuring the temperature of a gas downstream from a shock wave. S. A. Losev and N. A. Generalov, No. 3, 454, 1959.
Hydraulic installation for obtaining supersonic velocity jets of liquids. A. A. Semerchan, L. F. Vereshchagin, V. K. Isaikov, and A. I. Firsov, No. 1, 125, 1959.
Measurement of the transport velocity of a gas by an ion tracing method. P. E. Suetin, G. T. Shchegolev, and R. A. D'yachenko, No. 6, 968, 1959.
Recording of the velocity of high-intensity shock waves with piezoelectric transducers. N. N. Lebedev, I. Sh. Model', and F. O. Kuznetsov, No. 3, 696, 1968.
Method for measuring velocities of shock waves in liquid hydrogen. N. N. Gorshkov and V. V. Sil'vestrov, No. 4, 1201, 1976.
Equipment used along a ballistic path to measure velocity of flying models and for synchronization. S. Ya. Chernyavskii, No. 3, 833, 1976.

12.1.4. Ultrasonic Methods of Studying Mechanical Properties

An arrangement for determining the elastic constants of solid bodies. I. P. Goliamina and E. V. Romanenko, No. 5, 683, 1958.
Pulsed system for measuring the velocity of ultrasonic waves. F. F. Voronov, L. F. Vereshchagin, and V. I. Marav'ev, No. 3, 410, 1958.
Instrument for investigation of ultrasound absorption by metals at low temperaturess. A. A. Galkin and A. P. Korolyuk, No. 6, 958, 1960.
The measurement of sound velocity and absorption in solids. B. I. Pirozhkov, No. 4, 725, 1961.
Apparatus for the study of high frequency ultrasonic absorption in superconductors. A. G. Shepelev and G. D. Filimonov, No. 1, 198, 1965.
Visualization of stationary wave fields by combined raster recording of oscillation amplitude and wave fronts. V. K. Kuznetsov, No. 3, 690, 1967.
Measurement of the amplitudes of the ultrasonic vibrations of solids. Kh. G. Bogdanova, Yu. V. Vladimirtsev, V. A. Golenishchev-Kutuzov, and N. A. Shamukov, No. 5, 1280, 1969.
Measurement of weak acoustic waves by means of a capacitive transducer. V. G. Braginskii, V. P. Mitrofanov, V. N. Rudenko, and A. A. Khorev, No. 4, 1239, 1971.
Measurement of the attenuation of ultrasound in dielectrics by the method of exciting electrostrictive vibrations. É. V. Bursian, M. B. Grinbaum, V. I. Gol'dreer, R. Kh. Kalimullin, N. V. Pravilova, and V. V. Shapkin, No. 2, 528, 1972.
Method of measuring the absorption of ultrasound in semiconductors. S. N. Ivanov, G. D. Mansfel'd, and E. N. Khazanov, No. 2, 506, 1973.
Installation for measuring spin-lattice coupling constants by the ultrasonic method. V. G. Badalyan, No. 3, 947, 1975.
Meter for measuring ultrasonic velocity in solids. V. M. Musonov and V. A. Chizhikov, No. 4, 1320, 1975.
Recirculating pulse generator for measuring changes in the velocity of acoustic surface waves. A. P. Sereika, No. 6, 1711, 1976.
Polarization-optical mechanical-stress meter. A. E. Korotynskii, V. I. Kalemanov, and A. Ya. Nedoseka, No. 3, 934, 1976.
Type UF-90 PTs ultrasound transmission-time meter. M. V. Korolev, O. G. Galkin, and V. V. Uryvaev, No. 2, 599, 1976.
Pulse technique for measuring velocity of acoustic surface waves. V. V. Zalesskii, Ya. E. Mel'tser, and É. V. Stremovskii, No. 6, 1708, 1976.

12.2. High Pressures

12.2.1. Production of High Pressures

An apparatus of a super-high pressure with a simultaneous achievement of high temperatures. S. S. Boksha and G. P. Shakhovskoi, No. 3, 415, 1958.
Application of alcohol in water solutions for obtaining required pressures at low temperatures. N. B. Brandt and A. K. Tomashchik, No. 2, 309, 1958.

A valve for extra-high pressures. L. F. Vereshchagin and V. E. Ivanov, No. 6, 827, 1958.
The packing of high-pressure multiplier rods. V. A. Brozunov and D. S. Mirinskii, No. 3, 499, 1959.
Hydraulic compressor for 10,000 atm. L. F. Vereshchagin, and V. E. Ivanov, No. 6, 966, 1959.
A pistron pressure gage for pressure of up to 20,000 atmos. M. K. Zhokhovskii, Yu. S. Konyaev, and V. G. Levchenko, No. 3, 466, 1959.
High-pressure hydraulic compressors working with oil and water. V. E. Ivanov, L. F. Vereshchagin, and V. P. Demyashkevich, No. 1, 140, 1960.
Graduation of a high-pressure gas compressor. L. F. Vereshchagin and V. P. Demyashkevich, No. 1, 132, 1960.
Holl's tetrahedral press for obtaining pressures up to 10^5 atm at temperatures up to 2000°C. L. F. Vereshchagin, V. A. Galaktionov, and V. V. Popov, No. 4, 628, 1960.
Small laboratory 1000-T hydraulic press. L. F. Vereshchagin, A. A. Semerchan, V. K. Isaikov, and Yu. N. Ryabinin, No. 5, 782, 1960.
A super pressure apparatus for high temperature research. G. P. Shakhovskoi, No. 5, 784, 1960.
The obtaining of ultra-high pressures at low temperatures. N. B. Brandt, No. 2, 314, 1960.
A gas valve with a gland seal capable of operating at pressures up to 6000 atmospheres. V. A. Stepanov, No. 6, 995, 1960.
High-pressure hydraulic compressor for laboratory applications. B. I. Beresnev and V. P. Ivkov, No. 5, 982, 1961.
A high-pressure chamber for optical investigations at low temperatures. A. K. Tomashchik, No. 1, 200, 1961.
A high-pressure chamber. A. V. Averkin and V. N. Bogomolov, No. 6, 1184, 1961.
On the use of some materials for transmitting pressure. G. P. Shakhovskoi and E. G. Ponyatovskii, No. 3, 590, 1961.
A gasifier for obtaining pressures up to 100 atm by means of liquid helium. V. K. Tkachenko and A. I. Filimonov, No. 5, 1023, 1961.
Piston pressure gauge measuring to 25 ton/cm^2. Yu. S. Konyaev, No. 4, 728, 1961.
Low-temperature press. V. I. Khorkevich, V. A. Pervakov, and Ya. E. Genkin, No. 5, 1021, 1961.
Sodium chloride as a medium for transmitting pressure in optical investigations. Yu. A. Klyuev, No. 3, 602, 1962.
Laboratory device for compressing liquids to 20 katm. L. D. Livshits and E. D. Martynov, No. 3, 534, 1963.
Large volume equipment for high-pressure investigations. A. A. Semerchan, N. Z. Shishkov, and V. K. Isaikov, No. 4, 744, 1963.
Gas valve for a pressure of $20 \cdot 10^3$ atm. A. Ya. Preobrazenskii and V. A. Stepanov, No. 2, 454, 1965.
A valve for fine adjustment to pressures of 5 katm (tech.). G. P. Shakhovskoi, No. 1, 235, 1966.
Remotely controlled pressure release device for $1 \cdot 10^4$ atm. S. S. Boksha, No. 2, 504, 1966.
Sealing the piston of a pressure booster to 30 katm (tech.) with a rubber ring. S. M. Stishov and V. A. Zil'bershtein, No. 6, 1504, 1966.
A seal for pressure-amplifier pistons. S. M. Stishov and V. A. Zil'bershtein, No. 4, 1003, 1966.
Compact hydraulic press. S. M. Stishov, No. 2, 500, 1966.
Pistonless thermal-action gas compressor. S. S. Boksha, No. 5, 1241, 1967.
Ultrahigh-pressure gas thermocompressor. S. S. Boksha, No. 5, 1231, 1968.
Device for thermal compression of liquids. S. S. Boksha, No. 6, 1476, 1968.
Compact laboratory press. I. A. Radkevich, L. M. Vasil'ev, and Zh. B. Grigoryan, No. 1, 196, 1968.
Sealing of small piston in an ultrahigh-pressure multiplier. M. A. Plotinikov, V. G. Novozhilov, and A. A. Antanovich, No. 2, 480, 1969.
Shutoff valve for very high pressures. Ya. A. Kalashnikov, No. 1, 229, 1969.
Hydraulic system for a booster with independent maintenance. V. V. Tarasov and A. P. Grigor'ev, No. 5, 1470, 1970.
A simple seal for the small piston of a pressure booster. A. P. Grigor'ev, No. 4, 1215, 1970.
Control of the plunger reciprocating motion in a laboratory hydraulic press. S. M. Stishov and E. M. Saburenkov, No. 4, 1217, 1970.

Experimental explosive chamber. A. E. Voitenko, A. F. Demchuk, and B. I. Kulikov, No. 1, 303, 1970.

High-pressure split-body globe vacuum valve with spring-loaded needle. E. I. Ponomarenko and N. G. Shmakov, No. 6, 1768, 1970.

Device for creating a pressure of up to 40 kbar at temperatures of up to 1700°C. A. A. Godovikov, S. A. Smirnov, I. Yu. Malinovskii, É. N. Ran, M. S. Pan'kov, G. A. Rosinskii, and B. P. Tokmin, No. 6, 1769, 1971.

Laboratory piston compressor with a hydraulic drive for the compression of inert gases. S. M. Stishov and A. F. Uvarov, No. 1, 258, 1971.

Pressure stabilization in a hydraulic press. V. V. Evdokimova, A. D. Novikov, and V. K. Naumov, No. 2, 614, 1971.

Thermal and indicator diagrams of a 16 kbar hydraulic compressor. E. V. Polyakov, L. F. Vereshchagin, and Yu. S. Konyaev, No. 6, 1805, 1971.

Laboratory installation for research at high pressures and temperatures. A. G. Boganov, S. A. Popov, and L. P. Makarov, No. 4, 1213, 1972.

Installation for research at high pressures. V. A. Ivanov, I. N. Makarenko, S. M. Stishov, and V. I. Fedosimov, No. 6, 1841, 1972.

Autonomous high-pressure chamber. A. A. Averkhin and V. N. Bogomolov, No. 3, 883, 1972.

Controllable hydraulic pump rated up to 2kbar (the NQR-2000). D. S. Mirinskii and Ya. I. Shurin, No. 3, 965, 1972.

Manual pump rated at up to 1 kbar. D. S. Mirinskii and Ya. I. Shurin, No. 5, 1612, 1972.

Valve operating at 2 kbar. D. S. Mirinskii and Ya. I. Shurin, No. 2, 531, 1972.

Tap for controlling the motion of the plunger of a hydraulic press producing pressures up to 2 kbar. S. A. Smirnov, É. N. Ran, and M. S. Pan'kov, No. 1, 211, 1972.

Reverse valve which operates up to 20 kbar. D. S. Mirinskii and Ya. I. Shurin, No. 2, 533, 1972.

High-pressure liquid separator. D. S. Mirinskii and Ya. I. Shurin, No. 2, 530, 1972.

High-speed electrodynamic high-pressure gas injector. G. N. Aretov, V. I. Vasil'ev, and F. R. Khamidullin, No. 3, 878, 1972.

Sealing the bottoms in ultra-high-pressure vessels. A. A. Semerchan, A. A. Antanovich, V. V. Popov, Yu. A. Sadkov, M. A. Plotnikov, and A. P. Kurshin, No. 5, 1543, 1972.

A compact high-pressure intensifier. A. K. Butylenko and G. P. Gazha, No. 4, 1249, 1973.

An installation for compression of gases. M. D. Bondarenko, No. 6, 1802, 1973.

A high-pressure device with a demountable chamber. A. A. Butérus, No. 4, 1247, 1973.

Six-position liquid distributor operating under a pressure of up to 2 kbar. D. S. Mirinskii and Ya. L. Shurin, No. 2, 570, 1973.

A membrane separator for compression of gases to 2 kbar. M. D. Bondarenko, No. 4, 1245, 1973.

A locking valve for a gas pressure exceeding 10 kbar. M. A. Plotnikov and A. P. Kurshin, No. 4, 1251, 1973.

Method of increasing the hydrostaticity of the compression at low temperatures in fixed-pressure bombs. N. B. Brandt, S. V. Kuvshinnikov, N. Ya. Minina, and E. P. Skipetrov, No. 6, 1805, 1973.

A spherical multiple-dee ultra-high-pressure device. G. S. Bobrovnichii and L. Yu. Maksimov, No. 2, 560, 1974.

An installation for the compression of helium. S. M. Stishov and A. F. Uvarov, No. 4, 1244, 1975.

The MP-20-1 assembly for producing hydrostatic pressures up to 20 katm. A. T. Gaivoronskii, B. I. Keresnov, and D. K. Bulychev, No. 1, 325, 1975.

An intensifier with a stepped piston for investigating sealing systems at gas pressure of up to 15-20 kbar. M. A. Plotnikov and N. S. Zubarev, No. 4, 1246, 1975.

Device for creating a high hydrostatic pressure. G. T. Dubovka, No. 5, 1577, 1975.

A high-pressure device with a hydrostatic medium for transmitting the pressure. V. B. Shipilo and F. A. Shipilo, No. 3, 935, 1975.

A vacuum-tight compressor. L. K. Bogomolova and A. T. Vasilenko, No. 2, 551, 1975.

A small laboratory hydropneumatic compressor for pressures up to 2-3 kbar. M. F. Posolin, M. A. Plotnikov, and A. P. Kurshin, No. 1, 240, 1975.

Pressure at high temperatures in a solid-phase "anvil with hole" device. Yu. A. Litvin and R. A. Ishbulatov, No. 4, 1249, 1975.

Pressure distribution in the cell of a solid-phase "anvil with hole" device up to 3 GPa. R. A. Ishbulatov and Yu. A. Litvin, No. 3, 938, 1975.

12.2.2. High-Pressure Manometers and Gauges

Measurement of high pressures by means of wire transducers. G. G. Leonidova and I. N. Polandov, No. 2, 345, 1960.

Application of resistance-strain gauges for measuring stresses and strains at high pressures. Z. I. Stakhovskaya, No. 1, 136, 1960.

A membrane-type zero instrument for measuring high pressures. D. S. Tsiklis, No. 2, 401, 1961.

High-sensitivity differential pressure gauge. N. B. Brandt, No. 3, 601, 1961.

Piezo-cell pressure pulse transducer. R. I. Soloukhin, No. 3, 583, 1961.

A piezometer for determining the density of gases at high pressures and temperatures. A. V. Vilevich, L. F. Vereshchagin, and Ya. A. Kalashnikov, No. 3, 559, 1961.

Diaphragm manometer based on a mechanotron micrometer. S. G. Berlin, No. 3, 587, 1962.

A standard membrane-capacitance manometer. V. A. Ryzhov, No. 5, 971, 1963.

On the "new" and "old" pressure scales. Yu. S. Genshaft, No. 1, 134, 1963.

A low-inertia manganin pressure gauge. D. S. Tsiklis and M. D. Borodina, No. 2, 456, 1965.

Tunnel diode in the generator condition as a piezosensitive element. N. N. Voznesenskii, B. M. Kolomytsev, and L. N. Syrkin, No. 1, 137, 1968.

Tunnel diode—pressure transducer. V. V. Klimov and V. M. Cheremikhin, No. 2, 478, 1968.

Measurement of high pressures in hot chambers. L. F. Vereshchagin, E. V. Zubova, Yu. S. Konyaev, and A. V. Dovbnya, No. 6, 1584, 1969.

Membrane differential manometer for operation in aggressive media. E. A. Golovskii, V. A. Elema, and V. A. Tsymarnyi, No. 1, 230, 1969.

Pressure measurements by piezoelectric transducers in the combustion of condensed explosives. V. V. Andreev and L. A. Luk'yanchikov, No. 6, 1764, 1970.

Measurement of hydrostatic pressure up to 100 kbar by a manganin resistance detector. N. A. Bendeliani and L. F. Vereshchagin, No. 4, 1212, 1970.

Microgages for ultrahigh pressures. Yu. D. Klebanov and V. N. Sumarokov, No. 3, 893, 1970.

Piezoceramic pickup for measurement of pressure in flashlamps. V. V. Ivanov, V. G. Nikoforov, A. G. Rozanov, V. V. Kharitonov, and I. I. Yazev, No. 3, 860, 1971.

Measurement of the pressure and temprature in high-pressure chambers. Yu. D. Klebanov, No. 5, 1541, 1972.

Micromanometer with a digital reading. S. F. Borisov, B. A. Kalinin, B. T. Porodnov, and P. E. Suetin, No. 4, 1217, 1972.

Modified piston manometer for pressures of up to 100 kbar. L. F. Vereshchagin, E. V. Zhubova, V. A. Stupnikov, and Yu. K. Zhukovskii, No. 2, 576, 1973.

A pressure pickup. Yu. M. Straume and A. P. Ubelis, No. 6, 1804, 1973.

Dielectric pulsed-pressure pickup. N. A. Fot, V. P. Alekseevskii, and V. V. Yarosh, No. 2, 567, 1973.

A piston piezometer for measurement of the volume of compressed gases at high pressures. S. M. Stishov, I. N. Makarenko, and V. I. Fedosimov, No. 2, 563, 1974.

Pressure pickup using gallium arsenide tunnel diodes irradiated with electrons. N. P. Krivorotov, A. P. Vyatkin, V. N. Brudnyi, and M. A. Krivov, No. 6, 1754, 1974.

Investigating the variation of the volume of a thick-walled non-unloaded piezometer as a function of pressure. V. N. Zubarev, P. G. Prusakov, and V. V. Bartkovskii, No. 4, 1161, 1974.

Measurement of high hydrostatic pressures in low-temperature nuclear magnetic resonance investigations. V. I. Mirskii, V. T. Telepa, and L. T. Tsymbal, No. 6, 1943, 1975.

A tension-sensitive silicon membrane. V. S. Shadrin, V. Yu. Kal'pus, and V. A. Gridchin, No. 2, 559, 1975.

The direct method of measuring the dependence of pressure in compressed liquids on temperature. V. N. Bogomolov, No. 6, 1939, 1975.

Instrument for measurement of gas pressure. A. A. Nikolaev, S. P. Shumakov, and B. D. Maloletkov, No. 1, 326, 1975.

12.2.3. High-Pressure Measurements

An instrument for measuring the hardness of metals under very high pressure. L. F. Vereshchagin, V. A. Gladkovskii, and M. I. Oleinik, No. 4, 571, 1958.

Apparatus for the mechanical investigation of metals under pressures up to 30,000 kg/cm^2. Iu. N. Riabinin, L. F. Vereshchagin, D. B. Balashov, and L. D. Livshits, No. 2, 265, 1958.

A method of generating an electrical arc under pressure. L. F. Vereshchagin and N. S. Fateeva, No. 1, 148, 1960.

An apparatus for studying galvanomagnetic phenomena under pressures up to 30,000 atm. A. I. Likhter, No. 1, 146, 1960.

Plant for electrical measurements at low temperatures and pressures up to 10,000 atm. A. I. Likhter, No. 2, 310, 1960.

Apparatus and methods of high-pressure measurement of shear in solid bodies. L. F. Vereshchagin, E. V. Zubova, and V. A. Shapochkin, No. 5, 778, 1960.

High-pressure apparatus for ultrasound investigations up to 10 katm. F. F. Voronov and L. F. Vereshchagin, No. 6, 963, 1960.

Thermocouple connection with unbroken wires on a high-pressure vessel. V. A. Stepanov, No. 3, 592, 1961.

Crystal holder for investigations under high pressures. G. G. Leonidova, No. 3, 573, 1963.

An apparatus for temperature investigations at high pressures. A. A. Semerchan and N. N. Kuzin, No. 1, 206, 1964.

Pressure chambers with lead-ins for pulsed high voltage. I. I. Kalyatskii and V. V. Krivko, No. 4, 910, 1964.

Multiconductor high-pressure electrical lead-in. E. E. Chaputovich, No. 4, 913, 1964.

The installation of thermocouples in high pressure chambers. S. M. Stishov and N. A. Tikhomirova, No. 5, 1290, 1965.

A multielectrode seal for a high-pressure chamber. A. A. Averkin and V. N. Bogomolov, No. 4, 1007, 1966.

Electrical leads and gas inlets of large cross section for high-pressure vessels. A. Ya. Preobrazhenskii and V. A. Stepanov, No. 4, 1004, 1966.

An electrically insulating gasket for high-pressure conical electrical leads. K. A. Alekseev, No. 1, 233, 1966.

A simple device for insulating and sealing electrical leads in a high-pressure chamber. S. M. Stishov, No. 4, 1006, 1966.

Device for optical investigations at pressures of up to $7 \cdot 10^3$ atm. S. S. Boksha, No. 2, 504, 1966.

Investigation of the elastic properties of solids at high pressures by the ultrasonic method. F. F. Voronov and O. V. Stal'gorova, No. 5, 1238, 1966.

Measurement of the compressibility of solids under pressures of up to 25 kbar by means of resistance strain gauges. A. R. Kut-sar, No. 4, 947, 1966.

Thermostating of internally heated high-hydrostatic-pressure chambers. V. A. Ivanov and S. M. Stishov, No. 6, 1460, 1967.

Electrical leads into a high-pressure chamber. E. S. Itskevich, V. F. Kraidenov, Z. A. Mironova, E. L. Slavyaninova, and V. A. Sukhoparov, No. 1, 194, 1968.

Insertion of a pulsed magnetic field into a high-pressure vessel. V. A. Venttsel', No. 1, 193, 1968.

Chamber for studying Mössbauer effect at hydrostatic pressures up to 10 kbar. V. N. Panyushkin, No. 2, 478, 1969.

High-pressure chamber for measuring the intensity of magnetization using pendulum balances. Yu. S. Versenev, N. P. Grazhdankina, and M. I. Oleinik, No. 5, 1271, 1969.

Chamber for studying the influence of pressure up to 35 kbar and temperature up to 1500°C on the conductivity of solid dielectrics. A. B. Slutskii, No. 6, 1582, 1969.

Method of extracting wires through the seals of high-pressure chambers. A. F. Mundus-Tabakaev, No. 4, 1214, 1970.

Galvanic method of hermetically sealing copper ampoules. A. P. Grigor'ev, No. 5, 1472, 1970.

Cavity resonator for electron paramagnetic resonance investigations at pressures of up to 8 kbar and liquid-helium temperatures. T. I. Alaeva, L. F. Vereshchagin, S. V. Kastochkin, Yu. A. Timofeev, and E. N. Yakovlev, No. 1, 264, 1971.

Attachment to a standard electron paramagnetic resonance spectrometer for investigations under high hydrostatic pressures. Yu. A. Timofeev, S. V. Kasatochkin, T. I. Alaeva, L. F. Vereshchagin, and E. N. Yakovlev, No. 6, 1776, 1971.

Attachment to electron paramagnetic resonance spectrometers for studying substances under hydrostatic pressure. A. I. Filippov and Yu. V. Yaklokov, No. 6, 1772, 1971.

Vessel for spectrophotometric investigations of the kinetics of chemical reactions at high pressures. G. P. Shakovskoi, B. S. El'yanov, and N. I. Prokhorova, No. 2, 498, 1972.

Thermostat for research at high pressures and temperatures from 8 to 400°K using the nuclear magnetic resonance (NMR) method. B. I. Obmoin and N. K. Moroz, No. 5, 1535, 1972.

Cell for investigations of electron-resonance spectra at quasihydrostatic pressures of up to 100 kbar. T. I. Alaeva, L. F. Vereshchagin, V. V. Gvozdev, Yu. A. Timofeev, V. A. Shanditsev, and E. N. Yakovlev, No. 5, 1533, 1972.

ESR Video-spectrometer with a crystal-resonator for investigations in a wide range of pressures and temperatures. G. N. Neilo, V. I. Petrenko, and G. A. Tsintsadze, No. 5, 1538, 1972.

Insertion of several leads into a high-pressure chamber. G. D. Ushakov, No. 4, 1216, 1972.

Multichannel high-pressure electrical input terminal. V. A. Ivanov, I. N. Makarenko, and S. M. Stishov, No. 6, 1846, 1972.

Cell for mixing reagents under high pressures. G.P. Shakovskoi, B. S. Él'yanov, and I. A. Lavrov, No. 6, 1844, 1972.

Unit for investigating phase transformations under a pressure of up to 40 kbar in the 2-400°K range. A. V. Alyumov, V. N. Laukhin, A. G. Rabin'kin, and S. A. Smirnova, No. 1, 214, 1972.

Apparatus for tensile testing under pressure up to 15 kbar. V. I. Zaitsev, E. I. Osyka, I. M. Marchenko, V. G. Synkov, and G. Ya. Uptonov, No. 5, 1468, 1974.

Installation for investigating solids at high pressures with application of a shear stress. L. F. Vereshchagin, G. L. Aparnikov, E. V. Zubova, and Yu. K. Zhukhovskii, No. 2, 582, 1973.

Installation for optical research on semiconductors under a pressure of up to kbar at 77°K. I. I. Zasavitskii, A. I. Likhter, É. G. Pel', and A. P. Shotov, No. 2, 572, 1973.

Installation for optical investigations under high pressure at liquid-nitrogen temperatures. W. Buinowski, S. Porowski, and A. I. Laisaar, No. 1, 274, 1973.

A high-pressure chamber for optical invesigations at low temperatures. V. V. Nefedova and A. P. Minin, No. 2, 565, 1973.

Optical low-temperature chamber with a fixed hydrostatic pressure. A. M. Shirokov, Yu. V. Kosichkin, V. B. Anzin, E. S. Itskevich, and V. A. Sukhoparov, No. 3, 902, 1973.

Automatic precision control of the thermal mode in high-pressure devices. E. P. Stupakov and Yu. A. Litvin, No. 5, 1564, 1973.

Measurement of deformation during creep under a high hydrostatic pressure. V. I. Zaitsev, E. I. Lyafer, and I. K. Nosolev, No. 4, 1164, 1974.

An installation for measuring shear stresses at high pressures. A. A. Zharov and N. P. Chistotina, No. 2, 569, 1974.

A chamber for optical investigations at pressures of up to 50 kbar and temperatures of 80-300°K. M. F. Shchanov and S. I. Subbotin, No. 2, 566, 1974.

An ENDOR cavity for use at high pressures. S. V. Kasatochkin, Yu. A. Timofeev, T. I. Alaeva, L. F. Vereshchagin, and E. N. Yakovlev, No. 6, 1717, 1974.

Installation for Mössbauer investigations at high hydrostatic pressures. D. B. Balashov, V. S. Vartanov, B. G. Zamskov, and E. F. Makarov, No. 3, 867, 1974.

Measurement of the thermal conductivity of metals under pressure at low temperatures. E. S. Itskevich and V. F. Kraidenov, No. 6, 1757, 1974.

Method of thermal analysis of high pressure. I. Yu. Ignat'eva, A. K. Butylenko, and N. A. Bendeliani, No. 3, 865, 1974.

High-pressure chamber for x-ray research on the DRON-1.5 diffractometer in the 80-500°K temperature range. É. A. Zavadskii, B. Ya. Sinel'nikov, and V. I. Kamenev, No. 3, 990, 1975.

A high-pressure chamber with a resonator crystals for investigating electron spin resonance at low temperatures. A. Yu. Kozhukhar', S. N. Lukin, G. A. Tsintsadze, and V. A. Shapovalov, No. 4, 1252, 1975.

A high-pressure vessel for research by the nuclear magnetic resonance method. Ya. I. Shurin and B. I. Obmoin, No. 2, 554, 1975.

A cell with high axial pressure for nuclear quadrupole resonance (NQR). S. V. Mal'tsev, No. 6, 1941, 1975.

A multiple electrical lead for a high-pressure chamber. E. G. Kuchukov, No. 2, 557, 1975.

A method of examining electrical parameters at 0.1-200°K and pressures up to 300 kbar. N. B. Brandt, I. V. Berman, Yu. P. Kurkin, and V. I. Sidorov, No. 1, 237, 1975.

Recording of dielectric-metal phase transitions at high pressures. L. F. Vereshchagin, E. N. Yakovlev, B. V. Vinogradov, and V. P. Sakun, No. 5, 1579, 1975.

Installation for measuring isobaric specific heat of solids under pressures up to 250 MPa. G. A. Mil'ner, No. 4, 1195, 1976.
Installation for measuring Mössbauer effect under pressure at low temperatures. G. N. Stepanov and V. N. Panyushkin, No. 4, 1198, 1976.
High-pressure chamber for invstigation of Mössbauer spectra under hydrostatic pressure of close to 50 kbar. E. V. Kapitanov and V. N. Panyushkin, No. 3, 839, 1976.
Laboratory laser oscillator with an optical delay line inside the cavity resonator. N. S. Balashov, V. I. Grigor'ev, L. S. Kornienko, N. V. Kravtsov, and B. G. Skuibin, No. 3, 827, 1976.
Method for determining the melting point of materials under high pressure. K. A. Alekseev, No. 1, 231, 1966.
Measurement of the electrical properties of conductors at high pressures and temperatures. G. S. Bobrovnichii and Yu. D. Klebanov, No. 4, 1213, 1971.
Method of determining the electrical resistivity at high pressures and temperatures. D. B. Chernov and I. Ya. Shinyaev, No. 4, 1216, 1971.

12.3. Dilatometers. Gauges for Measuring Small Displacements and Oscillations

Mechano-electronic transducers (mechanotrons) and their use. (review). G. S. Berlin, No. 6, 1547, 1970.
Use of a suspension tension transducer for measuring magnetostriction and heat expansion. A. B. Zalesskii, No. 4, 534, 1958.
Measurement of small-amplitude mechanical vibrations. B. S. Davydov, No. 5, 701, 1958.
Inductive current collection for measurement of mechanical quantities. B. E. Korotenko, I. A. Gridneva, and V. F. Mamontov, No. 3, 442, 1958.
An instrument for measuring small mechanical displacements. A. P. Kornilov and V. S. Khryukin, No. 2, 308, 1959.
A recording scanning micrometer. V. R. Regel' and V. G. Govorkov, No. 4, 654, 1959.
Instrument for measuring amplitudes of small vibrations K. V. Chernyshev, No. 6, 956, 1959.
A dilatometer for the investigation of porous materials under variable temperature and humidity conditions. I. I. Lifanov and P. G. Strelkov, No. 5, 765, 1960.
Thermal expansion of some technical materials at lower temperatures. S. I. Novikova, No. 3, 507, 1960.
A vacuum contact dilatometer. V. S. Gumenyuk, No. 4, 723, 1961.
Electromechanical transducer for small displacements and forces. G. S. Berlin, No. 5, 973, 1961.
Device for measuring the thermal expansion of solids in the 20-1000°C interval. V. E. Mikryukov and I. K. Kamilov, No. 3, 581, 1962.
Capacitive data transmitter method for recording the instantaneous velocity of moving surfaces. A. G. Ivanov and S. A. Novikov, No. 1, 128, 1963.
Electronic-optical system with diffraction gratings for measuring linear displacements. L. M. Barkov and V. A. Suetin, No. 5, 969, 1963.
Two interference methods for measuring the amplitudes of oscillations of mechanical systems. B. S. Davydov, No. 1, 132, 1963.
Contactless measurement of vibrations. E. A. Zharov and V. I. Smyslov, No. 4, 844, 1967.
Dilatometer for high hydrostatic pressures. É. I. Éstrin, No. 3, 689, 1968.
Dilatometer for investigation of solids at high hydrostatic pressures. A. R. Kutsar, No. 3, 691, 1968.
Dilatometer with a sensitive of 10^{-4} Å. V. M. Pudalov and M. S. Khaikin, No. 6, 1520, 1968.
Measurement of small distances between two plane-parallel transparent plates. P. E. Suetin, B. T. Porodnov, and M. B. Rafikov, No. 2, 474, 1969.
Comparative quartz dilatometer for investigating phase transitions. L. A. Smolenko, No. 1, 191, 1969.
Elastic transducer for linear displacements. L. M. Polyakov and G. N. Malik, No. 4, 1004, 1969.
Electronic device for measuring small mechanical vibrations. V. B. Braginskii and V. I. Panov, No. 5, 1159, 1968.
Contact sensing element for angular displacements. I. V. Naumov, No. 5, 1276, 1969.
Receiving head for a displacement transducer using diffraction gratings. D. A. Asfendiarov, V. V. Dobyrn, M. V. Stabnikov, and B. G. Turukhano, No. 2, 601, 1970.

Arrangement for accurately measuring thermal expansion of metals at high temperatures. V. Ya. Chekhovskoi and V. A. Petukhov, No. 5, 1528, 1970.

Galvanomagnetic dilatometer. V. V. Zhdanova, S. A. Zaitsev, V. I. Pogodin, V. S. Samuilikovich, and V. P. Sergeev, No. 4, 1242, 1971.

Mechanism for carrying out angular microdisplacements with a lamellar elastic element. L. I. Lagerev, V. I. Mar'in, and V. A. Moiseev, No. 3, 913, 1971.

Use of the interference method to measure a vibration amplitude that is larger than the wavelength of light. V. R. Zaslavskaya, No. 5, 1528, 1972.

Calibration of an optico-electronic system for measuring brief displacements. A. I. Kartashev and S. N. Ivashevskii, No. 5, 1526, 1972.

Dilatometric device for the control of submicron gaps. I. L. Gufel'd and V. V. Postnov, No. 6, 1836, 1972.

Possibility of measuring the electrostriction coefficients of dielectrics by the method of the induced induction emf. É. V. Bursian, Yu. A. Afanas'ev, M. B. Grinbaum, R. Kh. Khalimullin, and V. V. Shapkin, No. 4, 1222, 1971.

A laser mechanical-vibration meter. Yu. P. Egorov and A. S. Petrov, No. 4, 1168, 1974.

A graphite dilatometer for investigations at high temperatures. I. L. Gufel'd, V. N. Panezhin, E. G. Surin, and I. V. Chermashentsev, No. 1, 274, 1974.

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13. MATERIALS SCIENCE

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13.1. Measurement of Kinetic Coefficients. Calorimetry

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13.3.4. Accessories for X-Ray Investigations

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13.3.5. Methods of X-Ray Analysis

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13.4. Electron Microscopy

13.4.1. Electron Microscopy and Attachments

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13.8.6. Measurement of Carrier Lifetime in Semiconductors

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14. THERMAL AND CRYOGENIC INSTRUMENTS

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Ovens for thermal treatment in vacuum. I. V. Salli, No. 6, 984, 1959.
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Nitrogen line with low heat losses. V. P. Konyaev, E. A. Maslennikov, and E. I. Sadovskii, No. 4, 961, 1967.

Rapidly detachable joint for main liquid nitrogen lines. B. M. Kaporovskii, E. T. Glebova, Yu. A. Okunev, A. A. Rusov, and I. A. Salamatov, No. 1, 300, 1971.

The elimination of the "humming" of helium siphons. A. I. Shal'nikov, No. 4, 1007, 1965.

Narrow-gap vacuum insulation. A. I. Shal'nikov and T. A. Shal'nikova, No. 1, 240, 1969.

Flexible hose for transfer of liquefied gases. N. Zyukin and A. I. Shal'nikov, No. 1, 241, 1969.

Flexible liquid-helium transfer tube. A. B. Fradkov and V. B. Ginodman, No. 1, 273, 1970.

An adapter for reducing losses during the pouring off of liquid helium. B. P. Batrakov and V. A. Kravchenko, No. 5, 1633, 1975.

Device for visual observation of the state of cryogenic liquids. A. M. Kagan, A. S. Pushnov, I. I. Gel'perin, V. V. Butov, and L. G. Bebchuk, No. 5, 1628, 1975.

Device for measurement of the length of liquid-hydrogen targets. Yu. P. Dmitrevskii, V. V. Elistratov, and A. F. Prudkoglyad, No. 4, 1256, 1972.

Method of shielding cryogenic surfaces from contamination by solidified gases for use in a hydrogen bubble chamber. E. I. D'yachkov and A. G. Zel'dovich, No. 6, 1820, 1973.

Reduction of the number of bubbles in liquid nitrogen in a Dewar flask for optical investigations. V. I. Ral'chenko, No. 1, 284, 1974.

Gas-cooled current input leads having a variable cross section. V. S. Okolotin and V. I. Bol'shakov, No. 2, 626, 1971.

Removable current lead for power supply in superconducting magnetic systems. O. P. Anashkin, L. V. Kurnosova, L. A. Razorenov, T. M. Sidyakina, and M. I. Fradkin, No. 4, 1230, 1971.

Nondetachable economical current lead for superconducting magnetic systems. V. V. Lavrova, D. G. Rachitskii, L. M. Fisher, and V. A. Yudin, No. 5, 1581, 1972.

Low-temperature vacuum-tight electrical leads. O. P. Anashkin, No. 2, 575, 1972.

Low-temperature vacuum-tight current input lead. A. M. Maznitsa and V. V. Tsybul'skii, No. 1, 261, 1972.

A glued multicore vacuum-tight electrical lead for low-temperature devices. B. N. Samoilov, No. 4, 1275, 1973.

Leads of capacity up to 10 kA for superconducting magnet systems. V. E. Keilin and I. A. Kovalev, No. 6, 1766, 1974.

Current leads for a cryostat for short-term use. Yu. L. Buyanov and I. Yu. Shebalin, No. 6, 1769, 1974.

Low-temperature high-frequency connector for high-pressure systems. V. B. Esel'son, V. V. Shapovalenko, and B. G. Udovidchenko, No. 6, 1805, 1976.

Hermetic joints of quartz with metals and glass for service in superfluid helium. V. I. Bek, I. M. Zamanskii, T. P. Ptukha, and L. I. Shanskii, No. 2, 489, 1968.

Sealing of windows in work with high pressures and low temperatures. S. A. Baldin and B. V. Gavrilovskii, No. 1, 163, 1960.

The vacuum-tight gluing of optical windows designed for operation at low temperature. G. B. Gorlin, No. 5, 1588, 1973.

Magnesium windows with a miniature indium seal for Mössbauer helium cryostat. S. K. Godovikov and V. G. Snigirev, No. 3, 970, 1975.

Fabrication of cooled windows of optical cryostats. V. B. Anzin, Yu. V. Kosichkin, and A. I. Nadezhdinskii, No. 6, 1974, 1975.

Glue compositions for cryogenic devices. V. V. Shapovalenko, E. I. Gol'dshtein, M. V. Pomoshnikova, and L. I. Voitenko, No. 3, 903, 1974.

The use of VT-200 glue for low-temperature vacuum-tight joints. O. P. Anashkin and V. E. Keilin, No. 5, 1589, 1973.

Low-temperature indium seal. V. Kh. Korrovit-s, No. 3, 953, 1973.

Device for the rotation of a specimen in a cryostat. N. T. Bendik, L. S. Milevskii, and G. D. Shnyrev, No. 1, 271, 1970.

Vacuum sealing of cryogenic installations. V. A. Beketov, G. V. Beketov, and N. S. Shatlovskaya, No. 1, 259, 1972.

Axial seal for deep-cooling systems. B. M. Kaporovskii and M. V. Voevodskaya, No. 1, 263, 1972.

Compact vacuum stop valve for a cryostat with a germanium detector. A. P. Grinberg, No. 4, 1260, 1972.

"Purity" of liquid helium (E). I. I. Abrikosova and A. I. Shal'nikov, No. 2, 593, 1970.

Low-frequency temperature fluctuations of liquid helium in cryostats. N. A. Pankratov, G. A. Zaitsev, and I. A. Khrebtov, No. 2, 595, 1970.

Investigations of the short-term dielectric strength and service lives of Lavsan insulation under cryogenic conditions. N. G. Anishchenko and V. F. Minein, No. 6, 1823, 1973.

Thermoelectric cooling of photomultipliers. E. H. Kolenko, Kh. V. Protopopov, D. G. Fleishman, and V. G. Yur'ev, No. 3, 488, 1959.

A miniature refrigerating machine. A. G. Nadol'nikov, V. G. Fastovskii, and Yu. V. Petrovskii, No. 6, 1197, 1963.

Miniature cooler. V. M. Grushevskii, F. M. Pshennikov, and B. A. Chernyshev, No. 1, 307, 1970.

Multistage microrefrigerators. V. A. Naer, I. Ya. Khirich, P. N. Kravchenko, and V. M. Kaplun, No. 1, 305, 1970.

Four-stage microrefrigerator. V. A. Naer, I. Ya. Khirich, and P. N. Kravchenko, No. 4, 1264, 1971.

Electronic refrigerator for a photomultiplier. E. A. Kolenko and M. A. Zakrevskaya, No. 1, 328, 1971.

Low-inertia thermoelectric microrefrigerator. L. I. Anatychuk, No. 3, 970, 1972.

High-speed microrefrigerator. V. A. Naer and I. Ya. Khirich, No. 1, 302, 1972.

Cooling of radio-electronic devices. I. B. Talalova, M. E. Gertsenshtein, V. V. Markov, V. V. Roshchin, and A. A. Fedorov, No. 2, 573, 1972.
Thermoelectric cryostat for optical investigations. N. I. Glushchenko, V. P. Migal', and A. L. Rvachev, No. 3, 946, 1973.
A two-stage microcooler. V. A. Naer, I. Ya. Khirich, and L. A. Belozerova, No. 6, 1993, 1975.

14.2.1. Monitoring the Cryogenic-Liquid Level

Level gauge for liquefied gases. L. L. Bevilogua and F. K. Lange, No. 5, 836, 1960.
Liquid level indicator for nontransparent cryostats. Yu. M. Kholinov, No. 1, 180, 1963.
Liquid-gas level indicator. M. V. Zinov'ev and V. K. Chernetskii, No. 6, 1465, 1967.
Level sensor for a dielectric liquid. S. R. Garber, No. 6, 1458, 1967.
Automatic device for maintaining the level of liquefied gases. V. V. Zyryanov and V. M. Safronov, No. 3, 738, 1968.
Device for the measurement and automatic control of the liquefied gas level. A. E. Rovinskii and G. I. Abramov, No. 2, 599, 1970.
Cryogenic system with a variable liquid-helium level. V. V. Permyakov and A. G. Demishev, No. 5, 1572, 1972.
Transistorized level-meter for cryogenic liquids. V. I. Kabanov, No. 1, 312, 1971.
A meter for measuring the level of cryogenic liquids. B. A. Marakhov, I. A. Gridin, S. G. Grigor'ev, and B. E. Shevchenko, No. 2, 629, 1974.
A device for signaling the level of cryogenic liquids. B. A. Marakhov, I. A. Gridin, S. G. Grigor'ev, and B. E. Shevchenko, No. 2, 630, 1974.
Automatic regulation of coolant level in cryostats. A. Z. Grasyuk and V. G. Smirnov, No. 3, 972, 1975.
A device for automatic maintenance of liquid nitrogen at constant level in a Dewar flask. V. P. Bykov and V. N. Kostryukov, No. 3, 500, 1959.
Automatic device for the supply of liquid nitrogen. L. I. Roizen and V. K. Gannus, No. 2, 399, 1961.
Device for measurement and automatic maintenance of level of liquid nitrogen and hydrogen. Yu. I. Nechaev, No. 4, 801, 1961.
System for automatically regulating the supply of nitrogen traps. B. A. Ivanov, No. 1, 182, 1963.
Liquid-nitrogen level controller. S. M. Benyaminovich and L. M. Fisher, No. 2, 633, 1971.
Automatic device for maintaining a constant liquid-nitrogen level. B. P. Batrakov, V. A. Kravchenko, and E. B. Ermakov, No. 5, 1631, 1975.
Meter for measuring the level of liquid nitrogen. B. A. Marakhov, S. G. Grigor'ev, Yu. M. Khryapchenko, and B. E. Shevchenko, No. 4, 1321, 1975.
A liquid-helium level indicator for metallic containers. A. B. Fradkov and A. I. Shal'nikov, No. 3, 508, 1960.
Liquid helium level indicator. A. E. Rovinskii, No. 2, 398, 1961.
Level gauge for liquid helium. R. V. Isaeva, No. 1, 201, 1962.
A capacitor liquid helium level indicator using a transistor. Ya. I. Rozenberg and V. G. Kasatkin, No. 3, 578, 1963.
Capacitive liquid helium level sensor. V. P. Peshkov, A. N. Vetchinkin, and B. V. Elkonin, No. 2, 491, 1968.
Gauge for measuring liquid helium level. V. S. Egorov, No. 5, 1319, 1969.
Superconducting-wire liquid helium level gauge. Ya. I. Rozenberg, No. 4, 1225, 1970.
Automatic controller for controlling the level of liquid helium in a cryostat. V. A. Lopyrev and N. K. Mukhin, No. 3, 907, 1971.
Sensor of a liquid helium level meter. V. G. Rudenko and A. I. Shal'nikov, No. 3, 970, 1972.
Liquid helium level meter. V. V. Permyakov, N. N. Kovriga, N. M. Kordonskaya, and V. V. Akimov, No. 1, 337, 1973.
A liquid helium level pickup and signal probe. N. P. Kekelidze, N. M. Sinadze, and G.P. Kekelidze, No. 2, 658, 1973.
A meter for measuring the level of liquid helium with light display. Yu. M. Kholinov, No. 4, 1242, 1974.

14.2.2. General-Purpose Cryostats

Obtaining temperatures below 1°K by the method of evacuation of vapor above liquid He^4 (review). A. D. Shvets, No. 5, 1017, 1965.

The use of liquid He^3 for obtaining temperature of down to 0.3°K (review). A. D. Shvets, No. 6, 1303, 1965.

Automatic temperature regulator for measurements in the interval of 10 to 150°K. Ya. G. Ponomarev, No. 6, 1514, 1966.

Apparatus for research from 4.2 to 300°K. V. E. Danil'chenko, L. F. Kurtenok, L. P. Lubyanov, and V. M. Stolyarov, No. 1, 219, 1967.

Precision automatic cryostat-temperature regulator for range 4.2-300°K. G. S. Pado, D. N. Astrov, V. I. Baibakov, V. S. Dragunov, M. P. Orlova, and V. A. Medvedev, No. 1, 216, 1968.

Sensor and temperature regulator for range 4.2-320°K. S. P. Logvinenko and Yu. N. Brovkin, No. 1, 221, 1968.

Temperature stabilization in the range 77-250°K. S. V. Mironov, E. G. Rudashevskii, and V. I. Chernykh, No. 5, 1312, 1969.

A cryostat for operation in the temperature range 4.2-300°K in the magnetic field of a superconducting solenoid. N. G. Afonchenkov and G. F. Kalashnikov, No. 2, 660, 1973.

A simple device for obtaining temperatures in the 4.2-300°K range in the presence of considerable heat influx to the sample. V. I. Silaev, A. I. Belyaeva, and M. M. Kotlyarskii, No. 5, 1582, 1973.

A universal cryostat for operation in the 4.2-350°K temperature range, G. S. Pado, G. I. Tulin, I. A. Dan'kov, N. P. Rodin, and O. I. Piontkovskii, No. 1, 303, 1974.

Container for liquid nitrogen. D. D. Tokarev, Yu. A. Shishov, No. 4, 1088, 1969.

Vessels for liquefied gases formed from polystyrene foam PSB. M. V. Vedernikov, V. A. Filippov, and L. I. Krivets, No. 1, 235, 1969.

A nitrogen-vapor thermostat with electronic control. A. V. Parshin and V. S. Sklyarenko, No. 2, 600, 1974.

Production of temperatures over the 29-63°K range using solid nitrogen and its application. M. P. Larin, No. 6, 1824, 1976.

Nitrogen cryostat for obtaining intermediate temperatures and forced heating of the sample. V. D. Kopanev and V. E. Shubin, No. 4, 1228, 1976.

Evaporability of liquid hydrogen stored in SD-10G vessels. I. Yu. Shebalin, No. 3, 576, 1963.

A hydrogen—helium protable Dewar having a capacity of 100 liters with no nitrogen cooling. G. I. Borodin, L. M. Vasil'ev, Yu. P. Dmitrevskii, L. A. Zhadkevich, E. M. Kashtanov, Yu. M. Mel'nik, A. F. Prudkoglyad, V. V. Sytnik, and K. Z. Tushabramashvili, No. 5, 1612, 1973.

Helium and hydrogen cryostats without additional cooling by liquid nitrogen. A. B. Fradkov, No. 4, 795, 1961.

A cryostat for intermediate temperatures. E. Shimashek, No. 4, 800, 1961.

Miniature device for obtaining intermediate temperatures. N. B. Brandt, E. A. Svistova, and M. V. Semenov, No. 2, 591, 1970.

Containers for storing and transporting liquid helium. A. B. Fradkov, No. 4, 578, 1958.

A laboratory cryostat. N. B. Mikheev and V. A. Glazkov, No. 4, 679, 1959.

Low-temperature stabilizer for helium cryostats. A. N. Vetchinkin, No. 1, 199, 1961.

A helium Dewar flask without nitrogen cooling. O. P. Anashkin, I. B. Danilov, and V. G. Krivenko, No. 6, 1297, 1964.

Dewar flask for liquid helium. Ya. S. Kan, No. 6, 1792, 1970.

Cryostat features accelerated pre-cooling. N. V. Gerasimenko, No. 5, 1540, 1970.

Metal cryostats. A. G. Demishev, A. M. Kalyuk, and N. P. Nazarenko, No. 5, 1591, 1971.

Cryostat having a warm horizontal aperture. A. G. Demishev and N. P. Nazarenko, No. 5, 1590, 1971.

Increasing the control sensitivity and accuracy of pressure regulators. I. S. Sidorenko, G. P. Shemonaev, and V. I. Makhan'kov, No. 3, 927, 1971.

Instrument for monitoring the operation of a metallic helium cryostat. V. V. Permyakov and N. N. Kovriga, No. 1, 298, 1971.

Stabilizer for stabilizing the temperature of superfluid helium near the λ-point. V. F. Khirnyi and E. N. Malyshev, No. 5, 1574, 1972.

A laboratory helium cryostat with multilayer insulation. V. L. Arbuzov, A. V. Baldin, A. E. Buzynov, S. M. Klotsman, and A. F. Matvienko, No. 5, 1548, 1974.

An automatic regulator for varying the temperature of a specimen according to a given law. V. Yu. Galkin, No. 1, 286, 1975.

An absolute pressure regulation for helium cryostats. A. G. Labenskii and T. M. Sidyakina, No. 1, 282, 1975.

A metallic helium cryostat. V. M. Dobryanskii, Z. V. Korotkaya, V. G. Rud', and A. I. Chizhik, No. 6, 1992, 1975.

Obtaining of temperatures below 1°K by evacuating vapor of liquid helium with absorption pumps. B. N. Esel'son, B. G. Lazarev, and A. D. Shvets, No. 5, 980, 1961.

An apparatus for obtaining the temperatures down to 0.3°K by means of He^3. B. N. Esel'son, A. D. Shvets, and N. G. Bereznyak, No. 6, 1160, 1961.

A simple He^3 cryostat. B. N. Esel'son, B. G. Lazarev, and A. D. Shvets, No. 3, 605, 1962.

Device for obtaining temperatures of 4.2 to 0.3°K. A. D. Shvets, No. 5, 1281, 1966.

Simple arrangement for production of temperatures down to 0.55°K by pumping helium-3. D. I. Vasil'ev, No. 2, 472, 1967.

Cryostat for dissolving ^{3}He used in the investigations in the region of 10^{-6}°K. V. P. Peshkov, No. 5, 1313, 1969.

He^3-He^4 Solution cryostat for temperatures of 0.03 to 0.016°K. K. N. Zinov'eva, No. 2, 532, 1969.

Dissolving cryostat with a condensation pump. V. S. Edel'man, No. 4, 1225, 1971.

Cryostat for achieving 0.7°K by evacuation of ^{4}He by means of a sorption pump. A. G. Voloshkevich and V. A. Moiseenko, No. 3, 936, 1972.

Thermostating crystals at temperatures below 1°K by means of the electrocaloric effect. V. Kh. Korrovit-s, G. G. Liid'ya, and V. T. Mikhkel'soo, No. 3, 950, 1973.

A low-temperature cryostat (0.8-4.2°K). D. N. Andrienko, A. A. Mamlyu, M. A. Obolenskii, and V. I. Khipkevich, No. 2, 662, 1975.

14.2.3. Special-Purpose Cryostats

Cryostat for experiments on the Mössbauer effect. V. A. Golovnin, S. M. Irkaev, R. N. Kuz'min, and L. G. Chachkhiani, No. 1, 118, 1969.

Cryostat for a Ge(Li) detector. A. L. Donde and A. N. L'vov, No. 5, 1491, 1970.

The head part of the cryostat for an Si(Li) spectrometer. G. K. Khomyakov, N. V. Serykh, N. A. Skakun, and A. G. Strashinskii, No. 6, 1772, 1974.

Cryostat for neutron-diffraction studies at 0.87-4.2°K. A. S. Bulatov, No. 5, 1237, 1967.

Remotely cooled intrachannel reactor cryostat. É. L. Andronikashvili, L. A. Vadachkoriya, and L. A. Zamtaradze, No. 3, 694, 1967.

Cryostat for electron-diffraction investigations at temperatures 300-4.2°K. S. I. Kovalenko and V. A. Godovannyi, No. 2, 463, 1967.

Cryostat for a neutron scintillation spectrometer. N. I. Adamovich, V. I. Zuev, and T. F. Pavlovskaya, No. 1, 268, 1970.

Cryostat for neutron diffraction studies in temperature range 4.2-400°K. S. G. Teploukhov and S. F. Dubinin, No. 1, 328, 1975.

Cryostat for low-temperature x-ray investigations. L. P. Potapov, No. 1, 200, 1962.

Cryostat with regulated temperature for structural research. I. V. Naumov, M. Kalanov, and V. S. Bondarevskii, No. 6, 1637, 1969.

Helium cryostat for x-ray studies. A. I. Zakharov, No. 2, 498, 1969.

Helium cryostat in a diffractometer for structural research. A. A. Boiko, V. A. Kucheryavyi, and A. I. Prokhyatilov, No. 3, 929, 1972.

Nonvacuum x-ray cryostat with system for automatically maintaining the liquid-nitrogen level. A. A. Boiko, V. A. Babayants, V. S. Denisov, A. A. Ivanov, and A. V. Mirenskii, No. 3, 866, 1976.

A metallic cryostat for optical investigations of solids at low temperatures. E. N. Lotkova and A. B. Fradkov, No. 1, 194, 1961.

Cryostat for dispersion measurements at low temperatures. V. P. Babenko, M. S. Brodin, and M. S. Soskin, No. 6, 1178, 1961.

Metallic cryostat for optical investigations at the temperature of liquid helium. E. V. Potapov, No. 1, 196, 1962.

Cryostat for examining the effects of light on the ESR spectra of substances at helium temperatures. O. G. Koshelev, No. 6, 1512, 1966.
Cryostat for magnetooptical research. V. N. Pavlov and V. V. Eremenko, No. 3, 692, 1967.
Cryostat for magnetooptical investigations. I. I. Zasavitskii, B. N. Madsonashvili, and A. P. Shotov, No. 2, 565, 1970.
Optical cryostat with controllable cooling in the 5 to 260°K range. Yu. V. Osipov, No. 2, 630, 1971.
Cryostat for the investigation of optical absorption under uniaxial compression. T. D. Dzhafarov and E. A. Rodkin, No. 6, 1796, 1971.
Cryostat with a pneumatic device for optical measurements in the far-infrared region. L. K. Vodop'yanov and V. D. Kopanev, No. 6, 1798, 1971.
Cryostat for a flash-photolysis installation. E. E. Fesenko, V. N. Kulakov, and N. Ya. Orlov, No. 5, 1613, 1972.
Cryostat for optical investigations. A. A. Boiko, I. A. Markova, and S. Z. Shmurak, No. 3, 937, 1972.
Optical cryostat for investigating the infrared spectra of solutions in liquefied gases. V. V. Bertsev, No. 1, 304, 1972.
Camera-cryostat in an installation for measuring the spectra of luminescent objects. K. B. Kann and N. I. Mikichur, No. 3, 932, 1972.
Cryostat for electron irradiation of crystals and optical investigations. B. V. Novikov, G. V. Benemanskaya, and A. E. Cherednichenko, No. 2, 567, 1976.
Glass helium cryostat for optical measurements. V. V. Kulakov, No. 6, 1800, 1976.
Cryostat for RE1301 EPR spectromete. V. P. Babenko, S. M. Ryabchenko, and E. N. Sal'kova, No. 1, 242, 1966.
Cryostat for measuring electron paramagnetic resonance (EPR) at 2 to 300°K. V. A. Moseev, A. M. Pshenikha, and A. I. Zvyagin, No. 5, 1317, 1969.
Cryostat for investigating cyclotron resonance under single-axis compression. Ya. G. Klyava and O. G. Koshelev, No. 5, 1488, 1970.
Nitrogen cryostat for investigations in the millimeter range of wavelengths. A. A. Volkov, G. V. Kozlov, and I. M. Chernyshev, No. 4, 1254, 1972.
A cryostat for investigating ESR at temperatures. V. B. Ginodman, V. G. Zhurkin, V. F. Troitskii, and A. B. Fradkov, No. 2, 659, 1973.
Helium cryostat for RÉ-1301 ESR spectrometer. Yu. N. Tolpanov, No. 1, 311, 1975.
Cryostat for investigation of dielectric and acoustic relaxation in the +50 to −15°C temperature range. V. D. Paponov and N. V. Chekalin, No. 6, 1494, 1968.
Cryostat for investigatint the absorption of ultrasound in solids at temperatures down to 0.32°K. A. G. Shepelev, No. 5, 1544, 1971.
A laboratory precision cryostat for investigating the electrical and elastic properties of crystals. V. A. Koptsik, B. A. Strukov, and L. A. Ermakova, No. 1, 190, 1961.
Cryostat for investigating the anisotropy of the galvanomagnetic properties of crystals. V. D. Krest'yankin, V. I. Novikov, and A. G. Ostroumov, No. 1, 198, 1962.
Cryostats for measuring electrical, thermoelectric, galvanomagnetic, and thermomagnetic properties. N. I. Davidenko and I. G. Fakidov, No. 5, 1239, 1967.
Cryostat for measuring the magnetostriction constants of ferrites by the ferromagnetic resonance method. N. V. Volkova and V. I. Raitsis, No. 2, 614, 1973.
Cryostats for voltages of 120 and 220 kV. A. A. Vinogradov, V. A. Goncharov, V. I. Levitov, and V. Ya. Starobinskii, No. 5, 1530, 1974.
Cryostat for investigating chemical reactions by the method of matrix isolation. A. K. Mal'tsev, R. G. Mikaélyan, and O. M. Nefedov, No. 1, 295, 1971.
Cryostat and evaporator for spectral studies of vapors of low-volatility compounds using the method of isolation in a matrix. V. N. Novikov, P. A. Perov, and A. A. Mal'tsev, No. 5, 1497, 1970.
Cryostats for superconducting solenoids with a warm active volume. A. B. Fradkov, No. 6, 1538, 1965.
Cryostat for a horizontally situated superconducting solenoid with a warm working cavity. N. G. Afonchenkov, No. 4, 1283, 1972.
Graded cryostat for maintaining small specimens at temperatures down to −196°C. V. G. Vasil'ev, N. V. Verein, and Yu. V. Leont'ev, No. 2, 530, 1969.

Ultra-high-vacuum cryostat with an independent pump. B. Z. Kanter, No. 3, 904, 1971.
Use of helium at a supercritical pressure for cooling superconducting systems under space-flight conditions. O. P. Anashkin, B. M. Belitskii, V. B. Brodskii, L. V. Kurnosova, N. M. Mikhailov, L. A. Razorenov, T. M. Sidyakina, and M. I. Fradkin, No. 3, 735, 1968.
Preserving liquid helium during space flight. A. B. Fradkov, V. F. Troitskii, G. N. Mikhailova, N. N. Inozemtsev, and V. V. Svistel'nik, No. 6, 1607, 1969.

14.2.4. Superconducting Devices

Cryogenic ac electric motors. I. D. Kolodeev, No. 6, 1522, 1968.
Superconducting direct-current electric motors. I. D. Kolodeev, No. 1, 266, 1969.
Cryogenic collectorless magnetoelectric dc motor. I. D. Kolodeev, No. 1, 281, 1972.
Superconducting dc reluctance motors. I. D. Kolodeev, No. 2, 588, 1972.
Superconducting electric motors having a disk rotor. I. D. Kolodeev, No. 3, 951, 1972.
Superconducting electromagnetic valve. I. D. Kolodeev and M. I. Kryukov, No. 3, 934, 1972.
Installation for investigating cryogenic electromechanical instruments and devices. I. D. Kolodeev, V. Ya. Kalinin, A. I. Sudovtsov, and T. G. Shevchenko, No. 5, 1583, 1972.
Stable superconducting point contact. F. Ya. Nad', No. 6, 1794, 1971.
Point superconducting contact with properties of a Josephson transition. S. I. Bondarenko, E. I. Balanov, L. E. Kolin'ko, and T. P. Narbut, No. 1, 277, 1970.
Preparation of narrow superconducting bridges. F. Ya. Nad' and O. Yu. Polyanskii, No. 6, 1794, 1970.
Magnetic measurements using a superconducting quantum magnetic-flux meter. N. V. Zavaritskii and M. S. Legkostupov, No. 3, 909, 1973.
A superconducting point contact adjustable in helium. E. V. Antyukh and F. Ya. Nad', No. 5, 1528, 1974.
Superconducting quantum interferometers made of thin films. W. Richter and G. Albrecht, No. 4, 1196, 1974.
A superconducting quantum magnetic-flux meter installation. N. V. Zavaritskii and A. N. Vetchinkin, No. 1, 290, 1974.
Method for investigating the properties of a superconducting quantum magnetic-flux meter. V. A. Kozlov, N. D. Kozlova, E. M. Savitskii, and I. I. Bykov, No. 3, 975, 1975.
The measurement element of a superconducting interferometer. M. S. Legkostupov, No. 3, 977, 1975.
Cooled carbon bolometer. E. A. Tishchenko, No. 5, 1493, 1970.
Automatic temperature control of a superconducting bolometer. I. A. Khrebtov, N. M. Gopshtein, and G. A. Zaitsev, No. 1, 292, 1971.
Receiving—amplifying system with a superconducting bolometer. N. A. Pankratov, G. A. Zaitsev, and I. A. Khrebtov, No. 6, 1866, 1972.
Determination of superconductive transition temperature. O. B. Mel'nikov and D. P. Moiseev, No. 3, 974, 1975.
Magnetic stabilization of the operating point of a superconducting bolometer. G. A. Zaitsev, V. G. Stashkov, and I. A. Khrebtov, No. 5, 1587, 1975.
A variable-frequency cryotron relaxation oscillator. Ya. S. Kan and V. A. Rakhubovskii, No. 1, 240, 1966.
A cryotron relaxation oscillator as a thermometer. Ya. S. Kan and V. A. Rakhubovskii, No. 3, 755, 1966.
A method of direct determination of the phase characteristics of cryotrons. I. A. Artemenko, I. D. Voitovich, and G. A. Mikhailov, No. 3, 753, 1966.
Superconducting bolometric current modulator. E. P. Vtorov and I. M. Dmitrenko, No. 3, 748, 1966.
Superconducting resonator-solenoid. L. E. Blagosklonskaya, E. M. Gershenzon, N. A. Serebryakova, and I. Yu. Shebalin, No. 4, 965, 1967.
Procedure for investigating the parameters of superconducting resonators. É. S. Zlunitsyn, A. I. Zykov, and V. A. Kushnir, No. 3, 947, 1973.

14.2.5. Instruments for Low-Temperature Measurement

Setup for measuring thermal capacities of metals and alloys at ultralow temperatures. P. N. Stetsenko and Yu. I. Avksent'ev, No. 6, 1492, 1965.
Low-temperature microscales having a sensitivity of 10^{-7} g. V. S. Kogan, V. B. Rabukhin, and Yu. M. Chernyak, No. 1, 289, 1971.

A device for investigating steady-state photoconductivity at low temperatures. Ya. E. Pokrovskii and É. É. Godik, No. 2, 466, 1966.

Unit for performing magnetooptical investigations at low temperatures. V. T. Agekyan, V. V. Il'in, I. N. Timchenko, and I. P. Shiryapov, No. 2, 520, 1972.

An attachment to a helium cryostat for investigating optical and photoelectric properties of semiconductors under uniaxial compression. O. G. Koshelev and T. B. Pleskacheva, No. 3, 983, 1973.

A low-temperature measuring cavity for 0.8 cm EPR spectrometers. A. L. Bil'dyukevich, No. 2, 453, 1964.

A low-temperature cavity for EPR investigator at 3.2 cm wavelength. A. L. Bel'dyukevich, No. 6, 1194, 1963.

A low-temperature device for the investigation of EPR. A. D. Shvets, A. A. Antipin, E. I. Kirillov, V. G. Stepanov, and G. K. Chirkin, No. 2, 459, 1965.

Apparatus for studying nuclear magnetic resonance at temperatures down to 0.3°K. V. D. Korepanov, A. I. Chernitsyn, and A. D. Shvets, No. 3, 613, 1965.

A simple special-purpose cryostat for EPR at helium temperatures. N. S. Garif'yanov and É. G. Kharkhash'yan, No. 1, 245, 1966.

Attachment to ESR spectrometer for use at 10-90°K. R. A. Asaturyan, I. V. Chernyak, N. S. Nekhoroshev, A. P. Kuzyaev, and V. I. Muromtsev, No. 6, 1496, 1968.

Low-temperature resonators for studying EPR through the use of single-axis pressure on the specimen. M. M. Zaitov, No. 4, 1029, 1969.

Construction of an electron paramagnetic resonance cavity resonator for the 8-mm band with provision for changing the investigated samples at liquid-helium temperatures. R. Yu. Abdulsabirov, V. S. Kropotov, and V. G. Stepanov, No. 4, 1228, 1971.

Coupling device for cryogenic microwave cavity resonators. B. R. Knyazev and A. I. Zykov, No. 5, 1577, 1972.

GKZh-94 Oil for acoustic bonding at low temperatures. V. B. Stryukov and I. F. Shchegolev, No. 5, 1284, 1966.

Acoustic contact at helium temperatures. V. F. Sorokin and I. I. Perepechko, No. 5, 1496, 1970.

Unit for measuring the absorption and velocity dispersion of sound in a magnetic field at low temperatures. V. I. Beletskii, A. P. Korolyuk, and M. A. Obolenskii, No. 5, 1539, 1971.

Creation of an acoustic contact in investigating polymers in the 2.1-240°K temperature range. I. I. Prepechko and P. D. Golub', No. 6, 1871, 1972.

An instrument for ultrasonic measurements at low temperatures. A. G. Denisov and V. B. Proskurin, No. 5, 1585, 1973.

Low-temperature device for magnetoacoustic investigations. A. P. Korolyuk, V. F. Roi, A. V. Golik, V. I. Beletskii, L. Ya. Matsakov, and M. A. Obolenskii, No. 4, 1199, 1974.

Device for studying creep in metals at low temperatures. I. A. Gindin, S. F. Kravchenko, Ya. D. Starodubov, and V. M. Godzhaev, No. 3, 542, 1963.

A low-temperature attachment for standard testbeds. M. V. Zinov'ev, V. Ya. Il'ichev, V. A. Kucheryavyi, and V. V. Pustovalov, No. 1, 249, 1966.

Device for rolling metals at 4.2-300°K. I. A. Gindin, Ya. D. Starodubov, S. F. Kravchenko, and M. B. Lazareva, No. 3, 751, 1966.

Arrangement for testing microsamples at temperatures from 1.3-1200°K. I. A. Gindin, S. F. Kravchenko, Ya. D. Starodubov, and G. G. Chechel'nitskii, No. 2, 468, 1967.

Micromachine for the strain analysis of metal samples at temperatures down to 1.3°K. V. V. Pustovalov, G. S. Med'ko, V. S. Mironov-Kopysov, and N. I. Mokryi, No. 2, 399, 1967.

Device for determining the Young's modulus of metals and alloys in the temperature range 4.2-300°K. R. A. Ul'yanov, N. D. Tarasov, L. S. Krundarev, L. F. Mar'yanina, and V. A. Moskalenko, No. 4, 983, 1968.

Machine for investigating deformations at temperatures up to 1.5°K. V. E. Vergola, V. P. Gorbach, V. B. Pariiskii, and I. A. Shapovalov, No. 3, 925, 1970.

Rolling and extension of metals at 4.2°K. I. A. Gindin, S. F. Kravchenko, Ya. D. Starodubov, and V. M. Matsevityi, No. 6, 1790, 1970.

Extrusion of metals at 77-4.2°K. I. A. Gindin, S. F. Kravchenko, and Ya. D. Starodubov, No. 6, 1788, 1970.

Unit for metallographic investigations at 4.2-300°K. M. V. Zinov'ev, L. K. Kolybaev, and V. A. Moskalenko, No. 1, 266, 1971.

Instrument for investigating dry friction at low temperatures. A. M. Arkharov, G. I. Voronin, and L. D. Kharitonova, No. 4, 1232, 1971.

Unit for investigations under impact loading in the 1.5 to 300°K range. B. I. Verkin and V. K. Chernitskii, No. 1, 297, 1972.

Unit for measuring the internal friction and electrical resistance of thin foils in the temperature range 4.2 to 300°K. V. E. Miloshenko, I. V. Zolotukhin, and V. S. Postnikov, No. 1, 256, 1972.

Dilatometer for measurements of the expansion of structural materials in the temperature range 2-77°K. N. S. Petrenko and S. F. Kravchenko, No. 3, 954, 1973.

A dilatometer for solidified gases. A. M. Tolkachev, A. N. Aleksandrovskii, and V. I. Kuchnev, No. 6, 1761, 1974.

A technique for the investigation of pressure-temperature structural diagrams at low temperatures. N. B. Brandt and N. I. Ginzburg, No. 5, 1024, 1962.

Method for investigating the effect of high pressures on the galvanomagnetic properties of metals at low temperatures. N. B. Brandt and D. Balla, No. 6, 1197, 1962.

A high pressure vessel for low temperature work. E. S. Itskevich, No. 4, 740, 1963.

High-pressure chamber for pressures up to 19 kbar intended for working at helium temperatures. E. S. Itskevich, A. N. Voronovskii, A. F. Gavrilov, and V. A. Sukhoparov, No. 6, 1452, 1966.

Device for investigating superconductivity under pressures to 50 kbar. L. F. Vereshchagin, M. A. Il'ina, and E. S. Itskevich, No. 1, 237, 1969.

Methods of trapping free atoms in various media at liquid nitrogen temperature for paramagnetic resonance investigations. R. A. Zhitnikov and N. V. Kolesnikov, No. 3, 682, 1964.

15. LABORATORY TECHNIQUE

Values of universal constants (1955). No. 5, 1024, 1961.

The international system of units as a basis for a new government standard covering the units of physical quantities. L. R. Stotskii, No. 3, 637, 1970.

The engineering of physics experimentation in eighteenth century Russia. [On the 250th anniversary of the Academy of Sciences of the USSR]. Yu. M. Tsipenyuk, No. 2, 307, 1974.

15.1. Electrical Measurement

Eighth All-Union Conference on automatic monitoring and electrical-measurement techniques. R. D. Baglai, No. 3, 696, 1967.

Application of a continuous secondary electron multiplication for amplifying small currents. P. K. Oshchepkov, B. N. Skvortsov, B. A. Osanov, and I. V. Siprikov, No. 4, 611, 1960.

Automatic recording of electrical parameters at high pressures. A. S. Semerchan and A. E. Fedorovskii, No. 5, 1027, 1962.

Magnetoresistance for field measurements at helium temperatures. V. A. Danilychev, N. V. Karlov, B. D. Osipov, A. V. Shirkov, and G. I. Shlippe, No. 5, 990, 1963.

Simple method for measuring low resistances. Ya. S. Kan and L. B. Rabukhin, No. 2, 447, 1965.

An alternating-current method of measuring the Hall effect. V. N. Bogomolov and S. G. Shul'man, No. 3, 690, 1965.

Toward a pulse method of measuring the Hall effect in strong electric fields. E. A. Movchan and N. N. Bondar', No. 3, 707, 1965.

Observation of small nonlinearities in superconducting transistions of thin films. N. A. Pankratov, G. A. Zaitsev, and I. A. Khrebtov, No. 3, 926, 1972.

Measurement of low electrical resistances. Ya. S. Kan and D. G. Tatishvili, No. 2, 580, 1973.

Obtaining cyclic volt-ampere characteristics with a PO-5122 oscillographic polarograph. V. N. Mikhailov and B. A. Kiselev, No. 3, 975, 1973.

Correction of electrostatic voltmeter readings in ungrounded circuits. E.G. Kon'kova, No. 2, 643, 1975.

Measuring low voltages in a dc circuit. G. I. Kulesko, No. 2, 562, 19756.

The use of an electrolytic tank as a computing device. G. P. Prudkovskii, No. 3, 423, 1959.

Rubber sheet apparatus for determination of equipotentials with space charge taken into account. K. G. Utkin, No. 5, 812, 1959.

A digital transducer for two-dimensional functions for the T-91 plotter. R. E. Eliseev, D. A. Men'kov, and V. M. Sal'nikov, No. 1, 293, 1975.

A measuring bridge for rapidly revolving equipment. G. T. Shchegolev and P. E. Suetin, No. 6, 965, 1959.
Registration of photoelectric currents by means of ÉPPV-51 recording potentiometers. L. A. Kamionko and L. M. Kotlyar, No. 6, 975, 1959.
A galvanometer with a gas step bearing. P. F. Shakurov, No. 4, 676, 1959.
Recording apparatus for photoregistration of small currents. V. G. Govorkov, A. F. Zakatov, and V. R. Regel', No. 1, 155, 1960.
Use of a self-setting potentiometer ÉPPV-51 for recording the signal of a photomultiplier. F. F. Sukhov, No. 5, 1050, 1962.
Improvement for the type ÉPP-0 automatic electronic potentiometer. L. T. Tuchkov and V. S. Kostin, No. 6, 1281, 1964.
An integrating attachment for a recording potentiometer. V. D. Laptev, No. 2, 446, 1965.
A simple integrating attachment to a recording potentiometer. G. Kh. Chedzhemov, No. 1, 237, 1966.
Recording of the ratio of two electric signals by means of the ÉPP-09 self-recorder. O. M. Sorokin, No. 2, 480, 1968.
High-speed point recorder. D. V. Zevyakin, A. A. Kurashov, V. V. Paramonov, V. G. Son, and N. N. Khaldin, No. 6, 1369, 1968.
Improvement of the coating quality of paper for vibrograph-type recorder. N. A. Chumaevskii, No. 2, 606, 1970.
Use of an N-102 oscillograph for converting a linear photorecording into a record in the form of a "screen." B. I. Legon'kii, V. G. Lyskov, and B. V. Naumov, No. 1, 226, 1969.
Automatic ten-channel measuring and recording system. V. G. Grinev, No. 5, 1541, 1970.
An electroluminescent head for recording electrical signals on a photographic film. V. A. Barkov, A. A. Kal'nin, L. M. Kogel', and Yu. M. Tairov, No. 5, 1510, 1970.
Device for commutation of currents. Ya. S. Kan and V. A. Rakhubovskii, No. 4, 1258, 1972.
Low-ohm low-temperature resistance box. Ya. S. Kan and D. G. Tatishvili, No. 5, 1561, 1972.
Sensing two-channel automatic X–Y potentiometer. V. A. Yudin and L. M. Fisher, No. 2, 614, 1972.
High-speed automatic pen-recording instrument. A. L. Semenyuk and V. V. Khomtsov, No. 1, 306, 1973.
The F209 digital millisecond meter. A. N. Lamert, Yu. S. Mal'tsev, A. K. Spiridonov, and L. V. Timoshevskaya, No. 1, 333, 1973.
Compact F210 digital instruments. B. A. Dulepov, É. A. Kleiner, and Yu. S. Mal'tsev, No. 1, 332, 1973.
Compact F207 indicators. Yu. S. Mal'tsev and D. I. Stefaneev, No. 1, 333, 1973.
A multifunction graphical differentiator and integrator. A. B. Shtykan, No. 3, 922, 1974.
The KSI-72 multifunction curve analyzer. A. B. Shtykan, No. 3, 923, 1974.
The N709 X–Y interpolating digital plotter. A. V. Voskresinskii, L. G. Kikot', and I. M. Koleda, No. 1, 321, 1975.
New precision alloys for electrical resistance. V. V. Kukhar', No. 4, 1267, 1971.
Shunt made from composition resistors. E. I. Azarkevich and Yu. A. Kotov, No. 6, 1722, 1976.
A liquid variable resistance. A. F. Kivshik, V. I. Kosinov, and B. I. Lagutin, No. 2, 560, 1976.
An electrical indicator for the adjusting and checking of pressure-gas-driven piston engines. I. B. Danilov and V. P. Andrianov, No. 1, 186, 1962.
An LED indicator with scale. M. M. Blinova, A. A. Kal'nin, and Yu. M. Tairov, No. 5, 1545, 1974.
The MI-1, -2, -3, -4 display modules. Yu. R. Sevunyan and A. V. Gavrish, No. 3, 1004, 1975.
Semitransparent indium contacts. Z. Sh. Ovsyuk, No. 5, 993, 1963.
Mounting of whiskers for galvanomagnetic measurements. Yu. P. Gaidukov and Ya. Kadletsova, No. 4, 1027, 1969.
Ultrasonic welding of a metal contact to a semiconductor. A. I. Vital'ev, L. I. Ganeva, I. P. Golyamina, and O. V. Smolin, No. 4, 1074, 1969.
Preparation of closely spaced contacts on film circuits. R. A. Chentsov, No. 1, 277, 1970.
Attaching electrodes to thin films. I. B. Krikshtopaitis, No. 6, 1786, 1974.
Miniature holder for measuring the Hall effect and electrical conductivity. V. I. Glazov and V. F. Zhukov, No. 6, 1776, 1974.

Preparation of contacts to metal whiskers. F. N. Tavadze, G. M. Surmava, and V. V. Kiyanenko, No. 1, 267, 1975.
A "smoked" contact shoe. G. A. Gusev, No. 5, 1627, 1975.
Soldering of contacts to $Pb_{1-x}Sn_xTe$ single crystals having a low concentration of current carriers. V. B. Orletskii, M. M. Kondratenko, and K. D. Rovstyuk, No. 4, 1223, 1976.
Obtaining ohmic contacts on boron single crystals by electrodeposition. N. Amandzhanov and R. Kh. Karimov, No. 3, 904, 1976.
An automatic multiposition time relay. V. Ya. Soltyk, No. 6, 998, 1960.
A step switch based on vacuum-tight contacts. V. I. Povstugar and A. I. Efimenko, No. 3, 894, 1974.

15.2. The Technique of Working with Gases and Liquids

A plant for the production of inert gases at high pressures. A. B. Dmitriev and N. P. Leven-Fisher, No. 1, 122, 1958.
Laboratory device for controlling purity in helium flow. D. I. Vasil'ev, No. 4, 576, 1958.
A device for the continuous analysis of mixtures of ortho-para hydrogen and deuterium. D. I. Vasil'ev and A. I. Shal'nikov, No. 4, 575, 1958.
Photoelectrical instrument for determining the concentration of mercury vapor in air. V. A. Ipatov and L. P. Pakhomov, No. 2, 279, 1958.
Production of pure xenon. I. E. Nakhutin and N. M. Smirnova, No. 1, 154, 1959.
Production of ortho- and paradeuterium mixtures. V. T. Smolyankin and A. I. Shal'nikov, No. 1, 155, 1959.
An automatic device for the transfer of gases evolved in electrolysis into an evacuated retort. R. E. Mardaleishvili, No. 4, 668, 1959.
A hydrogen leakage filler. E. T. Kucherenko and O. K. Nazarenko, No. 6, 981, 1959.
A compressor for valuable gases. V. O. Aulhorn, L. L. Bevilogua, and M. Knorn, No. 5, 835, 1960.
A relay-regulator for maintaining stable gas pressure. Yu. A. Kashtalyan, No. 3, 510, 1960.
A gas analyzer based on measurements of thermal conductivity in the pressure range 5-10 mm Hg. D. B. Diatroptov, No. 2, 324, 1960.
A device for filling vessels with He^3. N.P. Glazkov and V. F. Lyubchenko, No. 5, 1054, 1962.
A simple adsorption gas analyzer. V. E. Keilin, No. 3, 574, 1963.
Activation of hydrogen absorption by palladium. V. V. Sof'ina, No. 4, 766, 1963.
A device for admitting ammonia into a maser under stable pressure. G. M. Strakhovskii, V. M. Tatarenkov, and V. Yu. Sudzilovskii, No. 3, 730, 1965.
Device for opening capsules in vacuum. V. Ya. Katchan, No. 6, 1498, 1968.
Device for measuring small gas flow rates. A. F. Gorodetskii, É. P. Gofman, and D. N. Matveev, No. 4, 1014, 1966.
Automatic unit for collecting and pumping gaseous helium into tanks. N. V. Gerasimenko, No. 4, 1245, 1970.
Measurement of the thermal conductivity of gases. A. S. Umanskii, A. A. Oksman, and Yu. A. Gorshkov, No. 4, 1237, 1971.
Differential mercury manometer with an acoustic reading device. B. Ya. Gornshtein and O. B. Stupak, No. 2, 616, 1971.
Device for producing pure He^4. L. P. Mezhov-Deglin, No. 3, 911, 1971.
Installation for obtaining ultrapure gaseous hydrogen at a pressure of up to 50 atm. V. M. Bystritskii, V. P. Dzhelepov, N. I. Doronicheva, P. F. Ermolov, K. O. Oganesan, M. N. Omel'yanenko, S. Yu. Porokhovoi, A. A. Rodina, V. E. Teplov, and V. V. Fil'chenkov, No. 2, 576, 1972.
Instrument for analyzing the composition of mixtures of ortho-para hydrogen or deuterium. Yu. Ya. Milenko and T. K. Grigorova, No. 5, 1611, 1972.
Automatic gas-flow controller. V. M. Bulakh and V. I. Trofimov, No. 6, 1872, 1972.
A palladium filter for hydrogen and deuterium. A. V. Mitrofanov, No. 6, 1761, 1973.
Bellows pump for pumpover of gases. B. Ya. Gornshtein, No. 1, 338, 1973.
A valve for pulsed admission of gas. P. E. Kovor and M. I. Dmitruk, No. 5, 1512, 1973.
Trapping and regenerating neon and xenon gases. A. I. Ivanenko, K. D. Tumanov, and A. N. Filipson, No. 3, 940, 1973.
Determining the hydrogen-penetrance coefficient of coatings. R. I. Van'kovich, R. G. Parkheta, and I. V. Semchishin, No. 3, 855, 1973.
An automatic laboratory gas meter. V. I. Isachenko and N. S. Pakhomovskaya, No. 6, 1814, 1974.

A device for separate feed and mixing of chemically interacting gases. V. A. Dudkin and V. B. Rukhin, No. 3, 860, 1974.
A simple bellows pump for mixing corrosive gases. D. Yu. Stupin and V. N. Vorob'ev, No. 4, 1290, 1975.
Method of producing gas mixtures of closely controlled composition. L. I. Kurlapov and G. P. Martynova, No. 6, 1827, 1976.
Flowmeter for small gas discharges. V. R. Linde and B. Z. Lubentsov, No. 4, 1249, 1976.
A capillary vacuum tap. I. A. Berezin and M. I. Voronkov, No. 1, 157, 1959.
Injectors and ground joints for dosing gases and liquids. E. Ya. Alfimova, G. I. Zebakin, and V. R. Linde, No. 2, 447, 1969.
A differential pneumatic spark valve. G. G. Vorob'ev, No. 1, 159, 1960.
Pneumatic lock. Ch. Bazan, No. 3, 747, 1966.
KD-1 Electromagnetic one-way air valve with a starting signal. E. A. Konovalov, L. M. Ploshchanskii, and V. A. Solov'ev, No. 4, 1012, 1966.
Hot gas flow stabilizer. Yu. V. Sharvin, No. 1, 159, 1959.
Measuring the velocity of hot gas streams by photographing a spark discharge marker. I. A. Vasil'eva and P. A. Sofronov, No. 1, 202, 1964.
High-voltage hermetically sealed lead-in for gas detectors of nuclear particles. S. P. Mironov and Yu. L. Shitikov, No. 3, 805, 1969.
High-temperature hermetic lead for thermocouples. V. I. Petrov and A. P. Kobarenkov, No. 4, 958, 1967.
Taking the readings of a mercury manometer by means of a capacitive sensor. S. I. Solov'ev and Yu. N. Lyzlov, No. 2, 555, 1976.
A regulating bellows valve for operation at pressures of up to 150 atm. D. N. Astrov and A. V. Voronel', No. 3, 509, 1960.
A miniature high-pressure bellows valve. D. I. Vasil'ev, No. 1, 234, 1966.
An exhaust tube for sealing off vessels under high pressure. I. Sh. Libin, No. 4, 669, 1959.
Electromagnetic pump. A. I. Khablenko and O. I. Il'yashenko, No. 2, 400, 1962.
Adapter for filling vessels containing specimens with liquid in the hydrostatic weighing of powders. R. N. Kuz'min, No. 5, 1011, 1961.
Microflowmeter for liquids. G. N. Muskhelishvili and V. R. Mikirtumov, No. 5, 993, 1961.
Use of free precession of nuclei for measurement of the discharge of a fluid. B. I. Bashchenko and V. I. Myukhkyurya, No. 4, 1205, 1971.
A rotametric flowmeter with acoustic conversion of the float position into an electrical signal. M. A. Sivakov and A. K. Tarelkin, No. 4, 1242, 1974.
The BA-1 and BA-2 automatic burets. A. A. Proskurnikov, A. B. Ivanchenko, and É. M. Malkova, No. 2, 629, 1974.
Vacuum-tight electric drive with gear pump for pumped circulation of corrosive liquids. Yu. D. Il'yukhin, A. A. Raiko, and A. N. Dashuk, No. 4, 1248, 1976.
Signalization of coolant water flow. Libor Paty, No. 3, 501, 1959.
Relay manometer. V. A. Dologikh, No. 6, 1188, 1961.
Safety water relay. Gr. Grigorov and N. Tabakov, No. 5, 1012, 1961.
Water-cooling system fluid relay responding to fluid rate. E. A. Kolenko, No. 2, 566, 1976.
Thyristor control circuit for an emergency valve. L. V. Arinin and V. T. Vyskub, No. 6, 1804, 1976.
"Vlaga" laboratory titrometer. G. S. Grinberg, No. 2, 619, 1972.
An express method of determining small amounts of water in liquids and gases. A. N. Kopnin, V. V. Meriakri, and M. G. Semenov, No. 1, 291, 1975.
Liquid column with a stepped density variation. M. Ya. Kats, No. 1, 244, 1972.
Cone of liquid with a stepped variation of the density. M. Ya. Kats, No. 1, 305, 1973.
A hygrometer with thermoelectric cooling. E. A. Kolenko and V. G. Yur'ev, No. 4, 658, 1959.
A moisture detecting unit based on porous semiconductor film. B. S. Tul'chinskii and V. D. Yurasov, No. 2, 392, 1961.
Direct measurement of the relative humidity of gases. M. A. Kaganov and T. I. Kaganova, No. 1, 202, 1962.
A thin-film adsorption humidity sensor. V. A. Kotel'nikov and Yu. I. Petrov, No. 6, 1829, 1973.

15.3. Production of Single Crystals

Apparatus for crystallizing silicon without using a crucible. Ia. E. Pokrovskii and V. B. Dik, No. 1, 156, 1958.

Apparatus for growing very pure single germanium crystals. V. B. Dik and V. V. Ostroborodova, No. 1, 158, 1958.

An apparatus for growing monocrystals of refractory substances from powder in a controlled atmosphere. V. V. Dobrovenskii, No. 5, 835, 1959.

Measurement of high pressures by means of wire transducers. G. G. Leonidova and I. N. Polandov, No. 2, 345, 1960.

Making of small ferrite spheres. I. E. Gugler, No. 5, 838, 1960.

Induction heater for melting pure material which is enclosed in a quartz tube. V. N. Romanenko, No. 4, 811, 1961.

Graphite mold-furnace for growing single crystals. A. Ya. Preobrazhenskii and V. A. Stepanov, No. 3, 600, 1961.

Device for growing tellurium monocrystals according to the method of extraction from the melt. A. I. Shilkin and A. A. Kuliev, No. 5, 991, 1961.

Production of monocrystalline tungsten emitters. O. V. Mitrofanov, No. 5, 1007, 1961.

Zonal fusion of small samples of organic compounds. E. E. Baroni and N. P. Petrova, No. 5, 1059, 1962.

A device for cutting crystals. V. S. Shadrin, No. 5, 1060, 1962.

Growing metallic monocrystals in optically polished molds. Yu. V. Sharvin and V. F. Gantmakher, No. 6, 1169, 1963.

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15.4. Microwires, Knife Edges, Capillaries, Orifices, and Powders

The welding of glass-coated microwire to thick glass-coated wire. I. V. Litvinenko, A. P. Bibik, and I. V. Radchenko, No. 5, 1291, 1965.
Making thin lithium ribbons. I. G. Persiantsev and V. Piffl, No. 6, 1537, 1965.
Manufacture of very thin platinum wire by drawing in copper tubes. Ya. V. Mulyarskii, No. 5, 1279, 1966.
Method for providing electrical contact with a glass-insulated microlead. V. Z. Shub, No. 2, 490, 1969.
Preparation of shielded microconductors. B. V. Strizhov and S. N. Kondrat'ev, No. 5, 1518, 1970.
A device for the electrolytic sharpening of point probes with tip quality control. A. N. Goldobin and L. V. Lezheiko, No. 4, 677, 1959.
A simple method for making small diaphragms. Yu. B. Bolkhovityanov and V. A. Petrov, No. 2, 499, 1966.
Manufacture of thin field-emission electron emitters. G. N. Freiberg, No. 6, 1436, 1967.
Circuit for etching autoelectronic emitters. G. N. Freiberg, No. 1, 228, 1969.
Improved semiconductor circuit for etching points. G. N. Freiberg, No. 5, 1516, 1970.

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15.5. Technological Processes and Materials

Compact electron-beam apparatus for processing materials. É. N. Fakhrutdinov, No. 5, 1253, 1965.
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15.6. Thin Films

15.6.1. Thin-Film Technology

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Method for producing thin dielectric layers. G. A. Vorob'ev, V. A. Kostrygin, and L. T. Murashko, No. 5, 1018, 1961.

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Cathode sputtering of substances onto large surfaces. M. I. Yakunin, No. 2, 360, 1962.

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Method of discrete evaporation in vacuo. V. E. Danil'chenko and A. D. Goncharov, No. 3, 721, 1968.

Batcher for fabricating epitaxial layers. F. A. Kuznetsov, V. S. Kravchenko, I. G. Larionov, and M. Ya. Marchenko, No. 3, 902, 1971.

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An electrode for high-frequency ion sputtering. E. V. Dorozhko and V. G. Savitskii, No. 1, 276, 1975.

Nomogram for calculating the length of the dark cathode space for deposition of thin films by the cathode-sputtering method. V. P. Belevskii, L. N. Vakulenko, and Yu. G. Kononenko, No. 4, 1281, 1975.

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